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COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS

OCTOBER 1942

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LANSING
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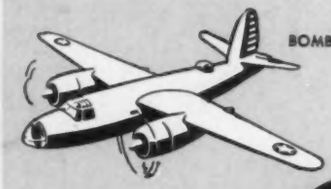

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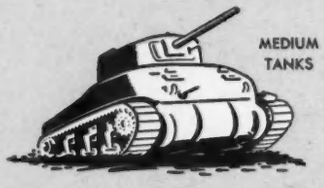
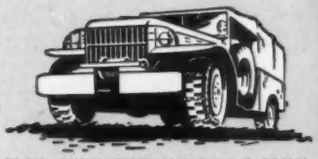


MEDIUM TANKS

IN WAR AND PEACE..

DODGE MEN BUILD WELL

ANTIAIRCRAFT CANNONS



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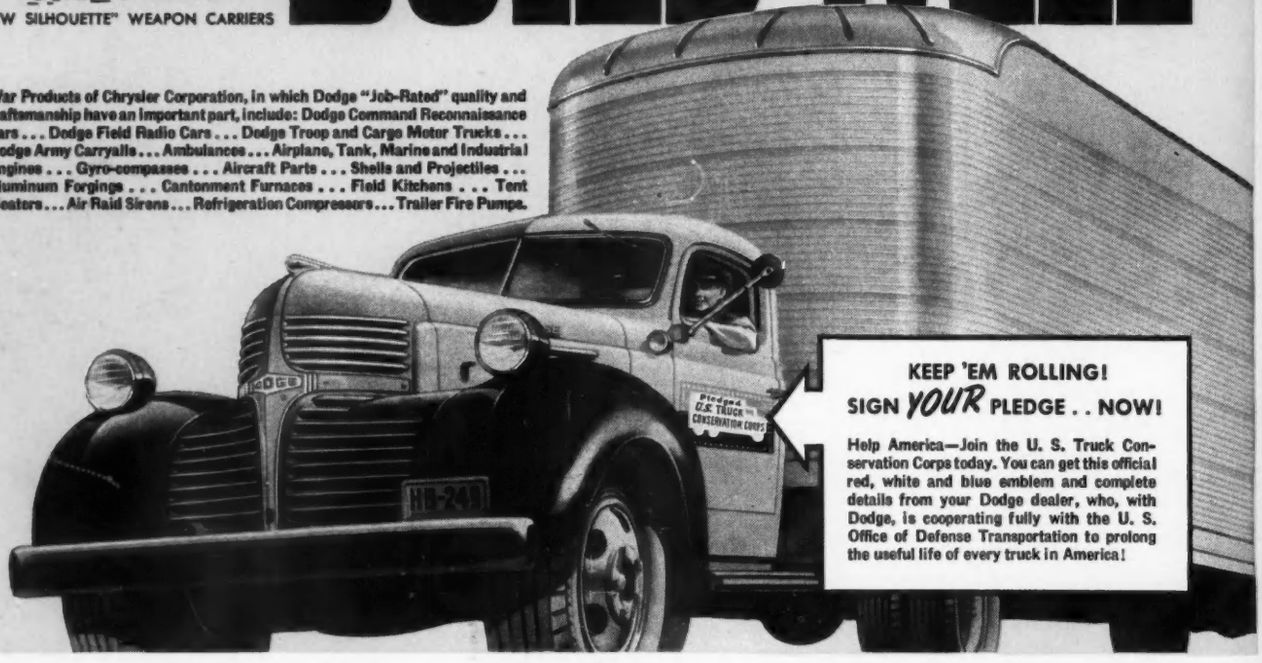

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DETROIT, MICHIGAN

COMMERCIAL CAR JOURNAL

with which is combined Operation & Maintenance

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OFFICES

Philadelphia—Chestnut & 56th Sts., Phone Sherwood 1424. New York—100 E. 42nd Street, Phone Murray Hill 5-8600. Chicago—Room 916, London Guarantee & Accident Bldg., Phone Franklin 4243. Detroit—1015 Stephenson Bldg., Phone Madison 2090. Cleveland—639 Guardian Bldg., Phone Cherry 4188. San Francisco—605 Market St., Room 708, Phone DOuglas 0967. Los Angeles—6000 Miramonte Blvd., Phone Lafayette 5525. Washington, D. C.—Room 1061 National Press Bldg., Phone District 6877.

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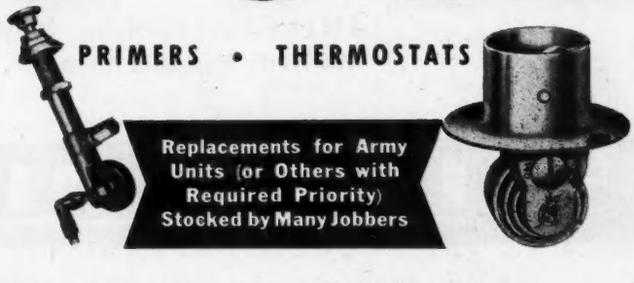

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INTERNATIONAL *Trucks*

COMMERCIAL CAR JOURNAL

Vol. LXIV OCTOBER, 1942 No. 2

WASHINGTON RUNAROUND

All Trucks Get Certificates . . . High Cost of Tire Inspection . . . Certificates a Weapon . . . New Orders . . . War-time Service Too Good . . . Cross-Haul Complaint . . . Railroading & Rubber . . . Used Truck Rationing Sure . . . Ceiling Price Schedule . . . New Truck Inventory . . . Army Makes Concession . . . Lamp Masks for Blackouts . . . Briefs

by GEORGE T. HOOK, Editor

All Trucks Get Certificates

When we mentioned the probable issuance of Certificates of War Necessity in this department last month, we held the private opinion that a general order dealing with them was not likely before the November election. It was a temptation to say just that but we compromised with the statement that it would pop if the Baruch rubber committee made a pessimistic report. Of course, even then we expected the Baruch committee to keep silent until after election. But this committee kept free of politics and made its report with surprising haste. The report was pessimistic and ODT promptly issued the Certificate of War Necessity Order No. 21, reported in complete detail elsewhere in this issue.

By the time they read these words many operators will have received the application forms and instruction sheets which ODT is sending to every owner of commercial vehicles in the United States. Mailing of these forms was scheduled to begin Sept. 23. When filled out the applications should be mailed in the addressed envelope which will accompany the instructions. ODT urges operators not to send the applications to Washington. Those who do will just gum up the works.

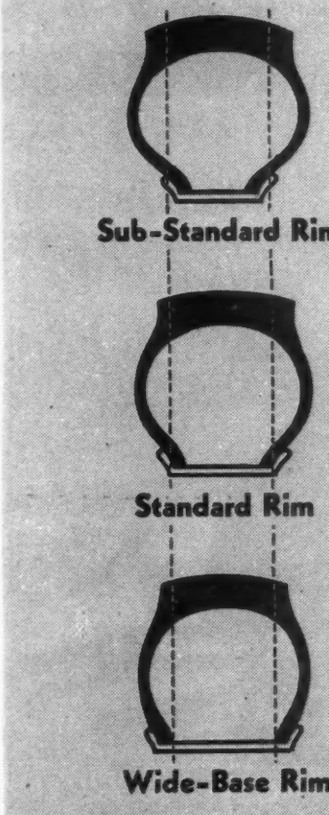
Time is so short between now and Nov. 15 when operation without the certificate becomes illegal, that it is figured ODT personnel will have only about 4 minutes to give to each application. ODT personnel won't have much more time than to check and okay the applications, classify them as to type of operation and issue the certificates. This means that the first certificates will be issued in a perfunctory manner. Thereafter, however, each application will be studied carefully by the 144 field offices, which ODT is planning to staff with 3000 persons, and adjustments will be ordered in operating mileages and gas rations where the claims of operators appear unwarranted. No operator will be denied a certificate.

The applications received will provide the ODT with a registry of commercial vehicles which will be useful in direct relation to the length of the war and continuing restrictions on civilian truck production. If essential truck services should need trucks, the ODT will be in position to commandeer vehicles of the right type from less essential services. This reallocation of vehicles will be resorted to only in the event that it is necessary to the war effort.

High Cost of Tire Inspection

At the moment of writing, criticism of one phase of new general order No. 21 was growing in intensity. That phase has to do with com-

(TURN TO PAGE 52, PLEASE)



National Wheel & Rim Association Tire and Rim Combination Chart

Rims in Column (1) are present original equipment standards—no rims narrower than these can safely be used for the tires shown. In Column (2) are the Wide-Base Rim recommendations.

Tire Size	Plies	In#'t'n	(1) Nominal Rim Size Minimum Standard	(2) Wide-Base Rim For Maximum Mileage	Flaps Required
6.00 6.00/5" 6.50 6.50/6"	6 8 6 8	50 70 50 65	3.75P(5")	4.33R(6")	7.00"
7.00 7.00/6"	8 10	55 70	4.33R(6")	5.00S(7")	7.50"
7.50 7.50/7"	8 10	55 75	5.00S(7")	6.00T(8")	8.25"
8.25 8.25	10 12	60 75	5.00S(7")	6.00T(8")	9.00"
9.00 9.00/8"	10 12	65 80	6.00T(8")	7.33V(9-10")	10.00"
10.00 10.00/9"	12 14	70 80	6.00T(8")* 7.33V(9-10")	7.33V(9-10")	10.00"

* Most tires in this size are mounted on 6.00 T (8") rims which is permissible, but the 9-10" rim is much preferable.

The three cross sections illustrated at the left indicate the difference in sidewall strain of the same tire mounted on rims of three different widths. The table above gives the safe standard rim widths for the various tire sizes as well as the recommendations for the proper selection of wide-base rims

WIDE-BASE RIMS

EDITOR'S NOTE—Fleet operator experience indicates that the tire pendulum is swinging from the use of oversized shoes to the use of oversized rims or, as they are called, wide-base rims. In this brief review, the claims for wide-base rims are summarized and a course of conduct for interested fleet operators is indicated. Many tire men advance the view that after the war the use of wide-base rims will be general.

IT IS possible that some fleet operators have not heard of the claims of increased tire mileage that are being made for wide-base rims. It is entirely possible and for a variety of reasons. First, they may not have been exposed to the gospel, which has been spread by a few disciples. Second, if exposed they may have been too busy trying to conform with ODT conservation orders to give it the attention it deserved. Third, in the absence of complete facts, they may just have scoffed at the claims.

The occasion, therefore, is ripe for a review of this subject of wide-base rims to bring fleet operators up to date on a practice which may help them materially in their tire conservation efforts.

This review comprises four elements:

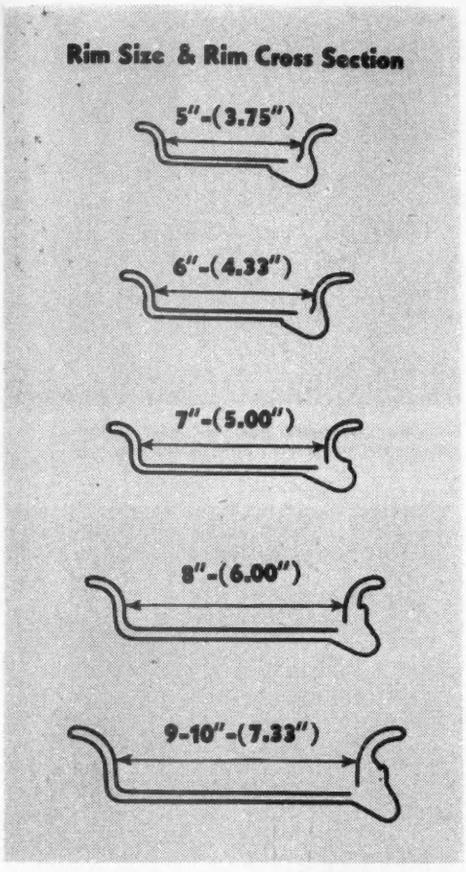
1. The results of experiments by tire engineers with wide-base rims.
2. The advantages claimed by the National Wheel & Rim Association, which is actively advocating wide-base rims.
3. The availability of rims at this particular time.
4. The favorable evidence of fleet operators who are using wide-base rims.

Engineering Experiments

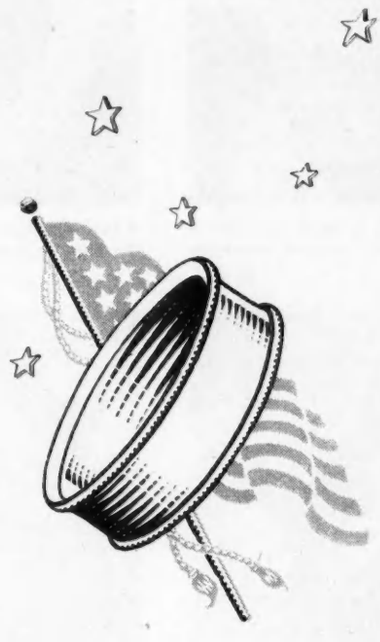
For several years the engineers of the leading tire companies have carried on wide-base rim development work, with car engineers cooperating. At the January, 1941, annual meeting of the Society of Automotive Engineers, held in Detroit, they reported on their findings. All development work and tests were made with passenger car tires.

Their reports showed the following benefits of wide-base rims: A 20 to 22 per cent increase in tire tread life. This is an average of tests of all companies, under varying conditions. The improvement was found to be greatest under hard driving conditions. One company's range of improvement was 5 per cent for easy conditions up to 80 per cent at maximum speed.

The tests also proved that tire durability, stability, steering control and cornering power were definitely im-



The sections shown above illustrate how tire rims are measured and classified



IN REVIEW

Variety of evidence indicates wide-base rims improve traction, braking and riding; reduce rim failures, cracked sidewalls and tire cost per mile

proved with wide-base rims. Also, it was pointed out that the same tires could be used on the wide-base rims as on rims currently in use.

Under questioning, the tire engineers said that the benefits in slow speed operation were neither as great nor as certain as in high speed service. Fleets, they admitted, would have to experiment to determine if wide-base rims would prove economical in their slow speed operation.

Although the tests on which they reported were made with passenger car tires, the tire engineers admitted that wide-base rims were being tested with truck tires. One engineer said the benefits were the same for truck tires as for passenger car tires, and even greater in some instances.

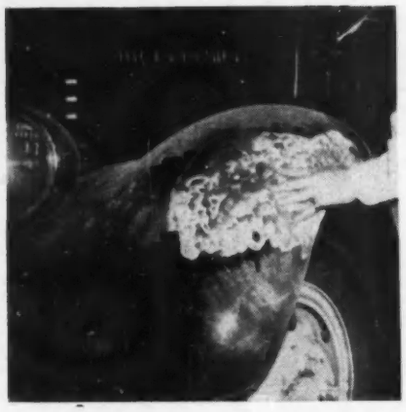
(Turn to Page 76, Please)

Fleets Report More Miles with Wider Rims

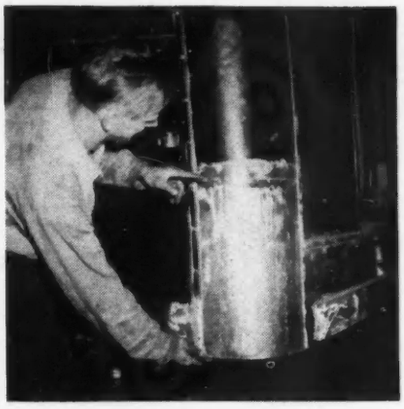
Below are tabulated the increased mileage claims of fleet operators located in various parts of the country. In a few cases fleet names are not given. In these cases, the fleets did not wish to be identified for policy reasons.

Company	Location	Tire Size	Rim Size Now Used	Rim Size Formerly Used	Average Increase in Tire Mileage Experienced by Rim Change
1. Dairy	Troy, N. Y.	8.25x20	8	7	15%
2. Norwalk Truck Line Co.	Norwalk, Ohio	7.50x20	7	6	30%
		8.25x20	8	7	30%
3. Adams Oil Co.	Waco, Texas	8.25x20	8	7	10-20%
4. Pioneer Transp. Service, Inc.	Clifton Heights, Pa.	10.00x22	9-10	8-9	20%
5. Ralston Purina Co.	St. Louis, Mo.	9.00x20	9-10	8	15%
6. Eastern Auto. Forwarding Co., Inc.	Buffalo, N. Y.	32x6	7	6	20-25%
7. Easy Way Lumber Co.	Arp, Texas	8.25x20	8	7	About double
8. Bus Fleet	Large Area	12.00x18	....	9-10	18%
		11.00x19	11	....	
9. Motor Freight	Portland, Me.	9.75x20	9-10	8	Excellent
10. Anderson Motor Service Co.	St. Louis, Mo.	9.75x20	9-10	8	Noticeable increase
		10.00x22	9-10	8	
		8.25x20	8	7	
11. Pickett Corp.	Winter Haven, Fla.	10.00x22	9-10	8	Much better
12. Saul Trucking Corp.	Phila., Pa.	10.00x22	9-10	8	30-40%
		11.00x22			

Comments by above companies are included in the article.



Careful fender repair is an important part of Metropolitan Distributors' salvage operations



A mechanic indicates size of patch made from the metal salvaged from damaged panel bodies

Lead parts salvaged from discarded batteries are melted and recast into similar new parts

Shackle bolt salvage. New bushings are used, bolt wear shimmed with part of old bushing

Worn wheel flange holes are welded and template used for drilling new set between old

Old pieces of brake lining are bolted on the brake and clutch pedals to replace worn pads

METRO MASTERS

by LEON C. GREENEBAUM

President, Metropolitan Distributors, Inc., N. Y. C.

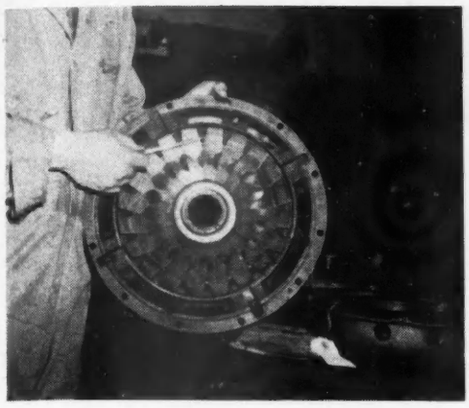
L. C. Greenebaum

WHEN I was called upon by the War Production Board, last March, to head the Motor Transportation Industry end of its salvage campaign, Metropolitan Distributors, Inc., was engaged in another form of salvaging, in addition to salvaging of scrap. This salvaging relates specifically to the rehabilitation of automotive parts for further use. This parts salvaging has been intensified since, and is being practiced more extensively in our shops today than ever before.

The opportunity that we have to practice salvaging can be realized from a brief review of our operation. As a leasing organization, we operate 1721 trucks. These comprise 215 separate fleets, for as many customers. Our vehicles range from tiny bantams to 25-ton steel-hauling trailers; we even operate motorcycles. We have 32 garages in New York City and New Jersey, 15 of which are equipped with repair shops. With a fleet of our size, and so many shops, we have had an opportunity to practice parts salvaging extensively.

Our salvaging practice is distinguished not so much by the salvaging of any one particular part but by the many small parts constantly being salvaged. These include all pieces of iron, steel, copper, lead, tin, aluminum, etc. We have reconditioned fenders, mufflers, exhaust pipes, front and rear ends and springs, to name just a few items.

We check over old machines and tools and, in some instances, make one good machine from the parts of several old ones. We are doing more



When segments in clutch discs wear, they are reversed and replaced for additional service

Underside of strainer plug head is shaved to allow deeper seat when threads are stripped

sults with fender rebuilding. We remove the old or badly damaged fender, replace it with a reconditioned one and rebuild the old fender at our leisure. This parts replacement system is simply an extension of our replacement plan for carburetors, distributors and other units long practiced in our shops. After all, there is no reason why such interchangeability cannot be carried out in a well-ordered fleet.

We carry out this idea in body repair work. We keep strips of panel molding on hand ready for replacement. Now only the corners are of metal and the straight strips of molding are replaced with wood. Elsewhere we piece rather than replace. Large body panels damaged beyond repair are cut into smaller pieces and we now patch whole sections of metal panels, corners, etc.

Formerly, when cab doors were damaged extensively, we replaced the entire panel. Now we use our scrap metal, salvaged from damaged panels, to replace the damaged area. We make one good window regulator from several damaged or worn ones. Windshield glass is salvaged by cutting good sections from broken shields and making use of these sections elsewhere, such as for rear view windows, etc. Occasionally, it is necessary to mount a longer body on a heavy truck. This is done by extending the chassis, using salvaged sections of an old chassis. Channel iron from old chassis is also used for making bumpers.

Radiator grille sections are saved and later assembled to make a good grille. Radiator core sections are saved and used again. We also save all lead, and reuse the copper tubing in radiator salvaging.

Batteries are rebuilt in our own shop. All old parts are melted down and the lead is recast by a mechanic who devotes most of his time to this work. He casts binding posts, connectors, lock nuts, and melts and repours the filler compound. Not only has this proved a profitable form of parts salvaging, but it precludes the necessity of turning in old battery cases for new battery replacements, as we keep and reuse our old casings. We also shorten worn battery cables for use on smaller units and use the short ends as ground cable. Pieces as short as 6 in. are saved.

In one section of our mid-city plant we recondition batteries,

(Turn to Page 80, Please)

PARTS SALVAGE

reconditioning of worn parts which heretofore were replaced. and we are rebuilding some parts by metal spraying; this latter operation is sent out to be done.

There are instances today when it costs a little more to recondition a part than to replace it—if we could get it. But, generally, we recondition for less than the cost of new parts, and this cost is gradually showing a decrease, because with more of it the mechanics are getting better each month.

As far as practical we keep a mechanic engaged in reconditioning the same kind of parts, so that he becomes more proficient in the job. For instance, we are getting excellent re-

Metropolitan Distributors goes beyond the pre-war conception of reconditioning and makes a craft of salvaging worn and damaged parts. Mechanics are encouraged to experiment and devise new salvage methods. They take particular pride in doing jobs that pre-war maintenance would consider impracticable, if not impossible.

Large body panels beyond repair are cut into sections of fronts, sides, corners, etc., and used to replace similar damaged parts in other bodies; good sections of damaged radiator grilles are saved, to be pieced later into whole units; lead battery parts are melted and re-cast; scrap steel is shaped into shaft pullers, drift pins, shackles, chisels, punches, etc.

This practice produces parts greatly needed and contributes considerably to America's truck parts conservation effort. The author of this article is Salvage Director, Motor Transportation Industry, Industrial Salvage Section, Conservation Division of War Production Board. Mr. Greenebaum sets an example which other operators will find profitable to follow.

NEW ODT ORDER No. 21

1. **Calls for Certificates of War Necessity for civilian trucks, and**
2. **Gives ODT a weapon to bring "wilful and persistent offenders" of conservation orders into line, because**
3. **Tires, gas, parts and supplies cannot be procured after Nov. 15 without a certificate, and**
4. **Provides ODT with a National Registry of Commercial Vehicles for use in any necessary reallocation of vehicles as between essential and non-essential services.**

IN a general order supplementing conservation regulations already in effect for such facilities, the Office of Defense Transportation has established a new program under which every vehicle affected by the order will be required to carry a Certificate of War Necessity. The order (General Order ODT No. 21) becomes effective Nov. 15.

The Certificates of War Necessity will govern the maximum mileage that may be operated or the minimum loads that may be carried, or both, by all vehicles to which they are issued. No operator subject to the order will be able to obtain gasoline, tires, or parts without a Certificate.

The order applies to all types of trucks and other rubber-tired vehicles propelled or drawn by mechanical power and built or rebuilt primarily for the purposes of transporting property, except motorcycles, and all motor vehicles used in the transportation of passengers or which are available for public rental, including ambulances and hearses, but not including private passenger cars.

STATEMENT... by JOSEPH B. EASTMAN,

Joseph B. Eastman

TO ALL OPERATORS AND USERS OF COMMERCIAL MOTOR VEHICLES:

The United States now has about 4,890,000 non-military trucks and about 154,000 buses. The trucks are carrying a tremendous volume of property, and the buses a tremendous volume of people. Our railroads are operating to near capacity. They could not carry the traffic which the trucks and buses are carrying: First, because they do not have the capacity, and second, because they are so located that they could not handle a great part of this traffic, even if they had the capacity.

Most of this traffic is essential. Our country will suffer severely, and the war effort will suffer, if the trucks and buses and other commercial motor vehicles find themselves unable to continue to handle this essential traffic, or any large part of it. *They must be kept rolling.*

No more civilian trucks are being built. The plants which built them have gone into the building of military trucks or other war products. Much the same is true of the buses. The supply of repair parts is critically limited. There is, and for months at least will continue to be, a serious shortage of tires. There is grave danger that our supply of all types of commercial motor vehicles will be badly depleted, unless we conserve them to the utmost.

This means that these commercial vehicles and their tires must be given the best possible care; they must be driven with equal care; *and every mile of unnecessary operation must cease. Your* welfare and the safety of our country demand that this be done.

The Office of Defense Transportation has promoted policies and has issued orders with this end in view. The results have been good, but much remains that can and must be done. The situation is not hopeless, but it calls for all possible precautions.

We propose, therefore, to issue to the operator of each commercial motor vehicle a *Certificate of War Necessity* which will govern the maximum mileage to be operated and the minimum loads to be carried. These Certificates will be required not only for trucks and buses, but also for taxicabs, jitneys, automobiles which are available for public rental, and certain other similar classes of motor vehicles. These latter types have been included because of the necessity and desirability of correlation of this program with that of governmental allocation of gasoline, tires, and tubes. The Application Form and Instructions which will be sent to each operator will tell how to go about getting these Certificates.

A Certificate must be carried on each such vehicle. Otherwise it can not lawfully be operated. Without a Certificate no gasoline, tires or repair parts can be

In addition to private passenger cars, military vehicles and commercial motor vehicles operated by dealers exclusively for the purpose of selling such vehicles are exempt from the order.

The ODT retains the right to amend, modify, recall, suspend, cancel or revoke any Certificate in whole or in part for good cause.

The order further provides that the ODT may cause any vehicle for which a Certificate has been issued "to be operated in such manner, for such purpose, and between such points as the Office of Defense Transportation shall from time to time direct" regardless of "any contract, lease, or other commitment, express or implied, with respect to the operation of such commercial motor vehicle."

Authority also is provided to cause any vehicle affected by the order to be leased or rented, except "by a person engaged in transporting property in a commercial motor vehicle for compensation to a person not engaged in such transportation."

Applications for Certificates of War Necessity must be made on forms to be supplied the operators by the ODT. They must be submitted to the ODT field offices nearest the respective home office or principal places of business of the applicants, unless otherwise directed.

A Certificate issued for a single motor vehicle must be carried on the vehicle at all times. When a Certificate is issued for a fleet of vehicles (three or more vehicles owned or operated by one person), a fleet unit Certificate must be carried on each vehicle.

Except as authorized by rationing regulations of the Office of Price Administration or other rationing or allocating agency, no person on and after Nov. 15 may furnish gasoline, parts, tires, or tubes to any operator affected by the order unless the operator or driver presents a Certificate or signs a receipt, showing the number of the Certificate covering the purchase.

The order further provides that the tires of every vehicle affected by the order must be checked at an inspection agency designated by the OPA every 5,000 miles or at the end of each 60-day period, whichever occurs first.

The order prohibits the continued use of any vehicle thus inspected unless the inspection agency designated by the OPA has certified that all reasonable adjustments, repairs or replacements "necessary to conserve and providently utilize" the vehicle's tires have been made, or unless the operator is unable, under rationing regulations, to make such repairs.

Each operator affected by the order will be required to keep a weekly record of all operations on a form prescribed on the back of each Certificate and must keep such other records and make such reports as may be required from time to time by the ODT.

Here is the official text of the order:

TITLE 49—TRANSPORTATION AND RAILROADS

CHAPTER II—OFFICE OF DEFENSE TRANSPORTATION
(General Order ODT 21)

PART 501—CONSERVATION OF MOTOR EQUIPMENT

SUBPART M—CERTIFICATES OF WAR NECESSITY FOR AND CONTROL OF COMMERCIAL MOTOR VEHICLES

By virtue of the authority vested in me by Executive Order No. 8989, dated December 18, 1941, and by Executive Order No. 9156, dated May 2, 1942, and in order to conserve and providently utilize vital transportation equipment, material, and supplies, including rubber; and to provide for the prompt and continuous movement of necessary traffic, the attainment of which purposes is essential to the successful prosecution of the war,

IT IS HEREBY ORDERED, That:

Sec.

501.90 Definitions.
501.91 Certificate of War Necessity required.
501.92 Application for certificate.
501.93 Issuance of Certificate of War Necessity.
501.94 Certificate of War Necessity not transferable.
501.95 Contents and conditions of certificate.
501.96 Motor fuel and commercial motor vehicle parts, tires, or tubes.
501.97 Inspection of tires.
501.98 Records and reports.
501.99 Enforcement officers authorized to report violations.
501.100 Suspension or revocation of certificate.
501.101 Control of vehicles.
501.102 Exemptions.
501.103 Communications.
501.104 Effective date.

AUTHORITY: § § 501.90 to 501.104, inclusive, issued under E.O. 8989, 6 F.R. 6725, and E.O. 9156, 7 F.R. 3349.

§ 501.90 Definitions. As used in this subpart:

(a) The term "commercial motor vehicle" means (1) (i) a straight truck, (ii) a combination truck-

TURN TO NEXT PAGE, PLEASE

obtained. For failure to comply with its provisions, a Certificate can be taken away.

But it is not proposed to use these Certificates in any arbitrary or ruthless way. Their purpose is to bring home to operators of all commercial motor vehicles the necessity for treasuring these precious vehicles and tires, and to give each operator a definite guide for his individual action. They will also provide a ready means for controlling wilful and persistent offenders.

The Certificates will not supersede outstanding ODT orders and public statements of policy. Those orders and policies will remain in effect unless and until they are formally amended, superseded, or revoked. At the outset, the limits of mileage, motor fuel, or load requirements specified by the Certificates may in some instances be more liberal than full compliance with outstanding orders or statements of policy would justify. The duty to comply will remain, and the limits will be brought into line wherever it becomes evident that such a situation exists. The purpose will be to trim the Certificates as quickly as may be down to the basis of maximum conservation reflected in the outstanding orders and statements of policy. The trimming will be done under uniform instructions from the central office by men in the field in close contact with the operations.

It is quite possible that the situation with respect to tires, parts, and other supplies may so develop that more radical steps in conservation must be taken than are now reflected in outstanding orders and statements of policy. If so, necessary changes will be made in the manner above indicated. In no event will the adjustment of the certificates to accord with such necessities be left to the unguided discretion of the field force.

In giving the information required by the Application Forms, the operators should be guided by operating records, if they have them. If they do not have records, they must in the beginning make the best estimates that they are able to make. We count on them to make honest estimates. They should not forget that their own best interests demand that they ask for no more mileage and no less loading than is absolutely necessary. Records will be required to be kept in the future.

I realize that the Certificates will be an annoyance and that the first reaction of many will be to regard them as a nuisance. In normal times they could have no justification. But these are not normal times. We are at war, and no war can be fought and won without suffering and trouble. Few things are more essential to an all-out war effort than to keep our commercial motor vehicles, public and private, in active service. The danger that we may lose their services to a considerable extent as time goes on is so great that it demands all possible precautions for the care and conservation of this necessary means of transportation.

There must be no slackening whatsoever in the efforts which are now being made to save the trucks, buses, and other commercial motor vehicles and their tires. The Certificates are intended, not to discourage, but to encourage, stimulate, protect, and augment those efforts. They are only one further means of helping the operators individually to do their full part in the campaign to keep these vehicles rolling in the cause of victory.

In carrying out this program we shall need the whole-hearted cooperation, not only of the motor vehicle operators, but also of shippers, consignees, farmers, merchants, manufacturers, administrative agencies, and the general public. The program has no other purpose than to protect the best interests of all concerned and of our country.

ORDER NO. 21—OFFICIAL TEXT

(CONTINUED FROM PAGE 31)

tractor and semi-trailer, (iii) a full trailer, (iv) any combination thereof, or (v) any other rubber-tired vehicle, excluding a motorcycle, propelled or drawn by mechanical power and built (or rebuilt primarily for the purpose of transporting property, and (2) any bus, taxicab, jitney, or other rubber-tired vehicle, propelled or drawn by mechanical power, used in the transportation of persons upon the highways, or available for public rental, including ambulance and hearses, but not including a private passenger automobile.

(b) The term "person" means an individual, partnership, corporation, association, joint-stock company, business trust, or other organized group of persons, and includes the United States or any agency, territory, or possession thereof, a State or any agency or political subdivision thereof, or any trustee, receiver, assignee, or personal representative.

(c) The term "property" means anything, except persons, capable of being transported by motor truck.

(d) The term "fleet" means three or more commercial motor vehicles owned or operated by one person.

(e) The term "private passenger automobile" means any motor vehicle built primarily for the purpose of transporting persons and having a rated seating capacity of seven (7) or less; and includes station wagons and suburban carryalls, irrespective of seating capacity, which are not used in the transportation of persons or property for compensation.

§ 501.91 CERTIFICATE OF WAR NECESSITY REQUIRED. On and after November 15, 1942, no person shall operate any commercial motor vehicle within the continental limits of the United States unless there is in force with respect to such commercial motor vehicle a Certificate of War Necessity issued by the Office of Defense Transportation governing such operation.

§ 501.92 APPLICATION FOR CERTIFICATE. Application for a Certificate of War Necessity shall be made in writing to the field office of the Office of Defense Transportation for the areas in which the home office or principal place of business of applicant is located, unless the applicant is directed to make application to some other office of the Office of Defense Transportation. Any such application shall be made on forms provided by the Office of Defense Transportation, and shall contain such information as the Office of Defense Transportation shall require.

§ 501.93 ISSUANCE OF CERTIFICATE OF WAR NECESSITY. (a) A Certificate of War Necessity will be issued by the Office of Defense Transportation to any qualified applicant therefor, certifying, with respect to the operations covered by the application, limitations of mileage or of motor fuel or requirements as to loads, or any one or more of such limitations or requirements, in order that such operations (1) shall be confined to those which are necessary to the war effort or to the maintenance of essential civilian economy, (2) shall be so conducted as to assure maximum utilization in such service of the commercial motor vehicle or vehicles of the applicant, and (3) shall conserve and providently utilize rubber or rubber substitutes and other critical materials used in the manufacture, maintenance, and operation of such vehicles.

(b) In all original and subsequent certifications the Office of Defense Transportation will be guided by the provisions of its outstanding orders or public statements or policy relating to the operations under consideration, and all such outstanding orders and statements of policy will remain in full force and effect unless and until they are formally amended, superseded, or revoked.

(c) Such certificate, when issued in respect of a single commercial motor vehicle, shall at all times be carried on such vehicle. When such certificate is issued in respect of a fleet of commercial motor vehicles, a fleet unit certificate shall at all times be carried on each commercial motor vehicle covered by such fleet certificate.

§ 501.94 CERTIFICATE OF WAR NECESSITY NOT TRANSFERABLE. No Certificate of War Necessity shall be transferable. In the event of the sale or other transfer of a commercial motor vehicle, or a substantial change in the character of its use or the condition under which it is used, the purchaser or transferee or owner thereof shall forthwith make application to the Office of Defense Transportation for a new certificate, upon the issuance of which the previously issued Certificate of War Necessity appertaining to such vehicle shall be surrendered for cancellation.

§ 501.95 CONTENTS AND CONDITIONS OF CERTIFICATE. Any Certificate of War Necessity issued under this subpart shall specify:

(a) The name and address of the person to whom issued;

(b) The vehicle or vehicles covered thereby;

(c) The purposes for which and the conditions under which such vehicle or vehicles may be operated;

(d) Such other terms or conditions as the Office of Defense Transportation may from time to time specify.

§ 501.96 MOTOR FUEL AND COMMERCIAL MOTOR VEHICLE PARTS, TIRES, OR TUBES. On and after Novemeber 15, 1942, no person shall:

(a) Transfer any motor fuel to, or transfer, mount, or install any part, tire or tube, in or upon any commercial motor vehicle, unless the operator thereof at the time of such transfer or installation, shall present to such person for inspection a valid Certificate of War Necessity pertaining to such vehicle, issued by the Office of Defense Transportation;

(b) Transfer or deliver any motor fuel for the use of, or transfer, mount, install, or deliver any part, tire or tube for the use of any commercial motor vehicle, unless the operator of such commercial motor vehicle shall at the time thereof sign a written receipt, in duplicate, for such motor fuel, part, tire or tube, and endorse on each copy of such receipt the number of the Certificate of War Necessity pertaining to the commercial motor vehicle or vehicles in or upon which such motor fuel, part, tire or tube is to be used. In the event such transfer, delivery, or installation is for the use of a fleet of commercial motor vehicles, the number of the Certificate of War Necessity pertaining to such fleet shall be endorsed on each such written receipt. The original receipt shall be retained by the person making the transfer, delivery, or installation, and the copy shall be retained by the person operating the commercial motor vehicle. Such receipts shall be available for examination and inspection at all reasonable times by accredited representatives of the Office of Defense Transportation.

(c) The provisions of this section shall not apply to transfers or installations made pursuant to a coupon, certificate, or other instrument, authorized or issued by a rationing agency of the United States, or to the sale, transfer, or delivery of motor fuel, parts, tires, or tubes, to any person for the purpose of resale.

§ 501.97 INSPECTION OF TIRES. On and after November 15, 1942, no person shall operate any commercial motor vehicle, unless within the sixty (60) days immediately preceding such operation, or, in the event such motor vehicle has been operated more than five thousand (5000) miles during such period, unless within the five thousand (5000) miles last operated by such vehicle, all tires mounted upon the wheels thereof or carried for use on such vehicle have been inspected by an inspection agency designated by the Office of Price Administration, and unless such inspection agency has certified that such person has made all reasonable and necessary adjustments, repairs, retreading, recapping, replacement of parts or tires, and realignment of wheels, found by such inspection agency to be necessary to conserve and providently utilize such tires, unless such operator is unable, under then existing rationing regulations to make such repairs, retreading, recapping, or replacement of parts or tires.

§ 501.98 RECORDS AND REPORTS. Any person operating a commercial motor vehicle in respect of which a Certificate of War Necessity has been issued, shall prepare and permanently maintain in the manner and form prescribed by the Office of Defense Transportation records of all operations conducted by such vehicle. A weekly record of such operations shall be maintained in accordance with the form provided on the reverse side of such Certificate of War Necessity, and shall be carried at all times in such vehicle. Such person shall keep such other records and make such reports as may be required and in the manner and form prescribed by the Office of Defense Transportation. All such records shall be available for examination and inspection at all reasonable times by accredited representatives of the Office of Defense Transportation.

§ 501.99 ENFORCEMENT OFFICERS AUTHORIZED TO REPORT VIOLATIONS. Any enforcement officer of any State or political subdivision thereof, who, on or after November 15, 1942, finds any commercial motor vehicle being operated which at such times does not have in such vehicle, available for inspection and examination a valid Certificate of War Necessity issued under this subpart, or which is in any other way being operated in violation of any order of the Office of Defense Transportation, or any term or condition of a Certificate of War Necessity governing its operation, is authorized to make a report thereof to the Office of Defense Transportation, stating the name of the person operating such vehicle, the owner or lessee thereof, and such other information as the Office of Defense Transportation may specify. Such reports may be made on forms prescribed by the Office of Defense Transportation.

§ 501.100 SUSPENSION OR REVOCATION OF CERTIFICATE. Any Certificate of War Necessity issued under this subpart shall be effective from the date specified therein and shall remain in effect according to its terms until amended, modified, recalled, suspended, cancelled, or revoked in whole or in part by the Director of Defense Transportation for good cause.

§ 501.101 CONTROL OF VEHICLES. (a) Whenever the Office of Defense Transportation shall deem it to be advisable, any person having possession or control of any commercial motor vehicle shall, notwithstanding any contract, lease, or other commitment, express or implied, with respect to the use or operation of such commercial motor vehicle, cause such vehicle (1) to be operated in such manner, for such purpose, and between such points, as the Office of Defense Transportation shall from time to time direct, and (2) to be leased or rented by any such person to such person or persons, except by a person engaged in transporting property in a commercial motor vehicle for compensation to a person not engaged in such transportation, as the Office of Defense Transportation shall from time to time direct. Unless the interested parties agree upon the amount of compensation payable for the use of any such vehicle, so directed to be leased or rented, the amount of such compensation shall be such amount as may be determined by the Office of Defense Transportation to be just and equitable, subject to any applicable maximum price established by any competent governmental authority.

(b) The provisions of this section shall not be so construed or applied as to require any person operating a commercial motor vehicle to perform any transportation service, the performance of which by it is not authorized or sanctioned by law.

§ 501.102 EXEMPTIONS. The provisions of this subpart shall not apply to or include the following:

(a) A commercial motor vehicle operated by or under the direction of the military or naval forces of the United States or State military forces organized pursuant to Section 61 of the National Defense Act, as amended;

(b) A commercial motor vehicle operated by a dealer exclusively for the purpose of selling such vehicle;

(c) A motor vehicle having a capacity of not to exceed seven (7) passengers operated by a person between his or her home and place of work and used in transporting other persons between their homes and their places of work, if such motor vehicle is not used for any other purpose for compensation.

§ 501.103 COMMUNICATIONS. Communications concerning this subpart should be addressed to the Division of Motor Transport, Office of Defense Transportation, Washington, D. C., or to the field office of the Office of Defense Transportation designated for the area in which the home office or principal place of business of the correspondent is located. Such communications should refer to General Order ODT 21.

§ 501.104 EFFECTIVE DATE. Except as otherwise provided herein, this subpart shall become effective November 15, 1942, and shall remain in full force and effect until further order of the Office of Defense Transportation.

Issued at Washington, D. C., this 8th day of September, 1942.

/s/ JOSEPH B. EASTMAN,
Director of Defense Transportation.

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NOTICE OPERATORS!

Applications for Certificates of War Necessity in connection with the Office of Defense Transportation's new program of transport conservation should not be sent to Washington, D. C., according to the ODT.

Application blanks, together with complete instructions on how to fill them out, will be mailed to every person registered on December 31, 1941, as the owner of a truck. Each application blank will be accompanied by a self-addressed envelope in which the application is to be returned to the Detroit office.

As mailing of the blanks is completed in a particular area, announcement of the fact will be issued to the newspapers. Anyone affected by the order who has not at that time received a blank will be required to apply to the nearest ODT field office. The addresses of these offices, of which there will be 144, will be announced later.

In announcing the manner in which the applications are to be submitted, the ODT emphasized that the new program does not constitute gasoline "rationing." The objective of the program, the ODT said, is to assure the continuance of commercial transportation by avoiding waste of critical equipment and facilities, which under pressing war conditions are difficult of replacement.

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ODT NEWS

12,000 Lb. Trucks and Special Types Get ODT Exemptions

Certain types of specially designed trucks and all trucks with a tire load-carrying capacity not exceeding 12,000 lb. were exempted by the ODT from the necessity of checking with Joint Information Offices or with other carriers as provided by General Order ODT No. 3, Revised, and General Order ODT No. 17.

The permits (3-5 and 17-14) provide the following authorization:

"Any motor carrier (or common carrier) operating a truck (a) which can be utilized only for the transportation of that type of property for which it is specially designed; or (b) where the primary carrying capacity is occupied by built-in loading racks, trays, or crates designed for the loading of specific property; or (c) where the rated load-carrying ability (as defined in the orders) does not exceed 12,000 lb., is hereby relieved, in respect of trucks so engaged, from compliance with the provisions" dealing with checking in with joint Information Offices and with other carriers.

The permits became effective Sept. 8.

ODT Defines "Low-Bed" Trucks

An interpretation defining the expression "low-bed motor truck" as used in General Orders ODT No. 3, Revised, and 17, was issued today by the ODT. A "low-bed motor truck" is defined as "a motor vehicle the bed of which is of less than standard elevation above the ground and which is especially designed for the transportation of extremely heavy machinery or other unusually heavy articles. The term has no reference to the height of side walls."

Public Shares Carrier's Obligation

An interpretation making it clear that the public is equally responsible with carriers under the delivery curtailment provisions of General Order ODT No. 17, governing operations of private and contract carriers by truck, was issued by the ODT.

Text of the interpretation says that "any customer or other person who causes any of the prohibited deliveries or call-backs, unless the deliveries fall within one of the exceptions, is in violation of section 501.68 to the same extent as the motor carrier who actually performs the prohibited service."

Florists, Dairies and Bakers Enter Joint Action Agreements

A novel plan for the conservation of trucking facilities by four wholesale florists in Dallas, Texas, is one of seven additional joint action agreements cleared by the Office of Defense Transportation and the U. S. Department of Justice

Under the Dallas plan, the entire area served by the four dealers will be divided into four delivery districts, and each dealer will be assigned to a single district on a given day. Each dealer then will make all deliveries, his own and those of the other three dealers, in the district to which he is assigned.

The plan further provides that the districts be rotated so that each dealer will be assigned to a different district each day, thus equalizing the mileage traveled by the trucks of all four dealers. The four dealers, it was explained, are situated near each other, thus facilitating the pickups.

Five of the seven plans announced involve the distribution of milk and all provide for every-other-day deliveries or some modification of the every-other-day plan. The cities or areas affected under the milk delivery plans include Baltimore, Md., Portland, Ore., Eugene, Ore., Wilmington, Del., and the Calumet, Indiana-Illinois, area.

The other plan announced was submitted by the West Virginia Bakers Association and provides for a five-day delivery week for wholesale baked products.

Truck Leasing by Private Carriers Interpreted by ODT

Several questions concerning leasing of trucks under General Orders ODT No. 3. Revised, and No. 17 were answered in formal interpretations issued by Jack Garrett Scott, General Counsel of the ODT. Questions and decisions follow:

Question—Private carrier "A" operates from X to Y with full loads and returns empty. Private carrier "B" operates in the reverse direction with full loads and returns empty. Can either of these carriers lease equipment from the other so that the lessee carrier can operate with capacity loads in both directions?

Decision—Yes. The lease arrangement must be in good faith, and so the leased vehicle must, for the period of the lease, virtually become the property of the lessee and be operated by him as though it were his property. He must assume all of the responsibilities attendant upon its operation, including the direction and control of the vehicle and its operations.

Question—Will a lease arrangement made as above described change the status of the lessee carrier from a private to a contract carrier?

Decision—No. If the lessee transports only his own freight in the leased vehicle. Lessee loses his status as a private carrier if he transports lessor's or any other freight for compensation.

Question—When a vehicle is operated by lessee under a lease is lessor or lessee responsible for, or charged with the duty of, making the mileage reduction of 25 per cent required by Order No. 17, Section 501.67?

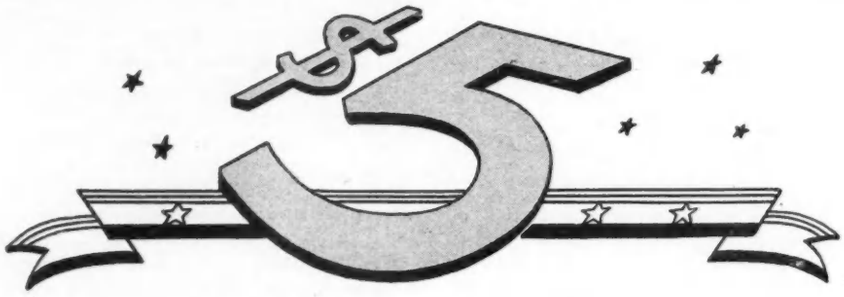
Decision—the leasing of a vehicle has no effect other than that the mileage of the leased vehicle is to be charged against the lessee carrier.

Question—Would the lease by a private carrier of space in his truck to carry lessee's freight change lessor's status as a private carrier?

Decision—Yes. The so-called lessor would become, in respect of the goods carried in such space, a carrier for compensation.

(Turn to Page 132, Please)

SHOP HINTS & SALVAGE TIPS FROM FLEET SHOPS



Commercial Car Journal will pay $5.00 for acceptable shop hints and $5.00 for unusual parts salvage tips. Send in as many ideas as you have to the editor. Don't underestimate your ideas. Let the editor be the judge. A photograph or a rough sketch and simple explanation in your own words are enough. CCJ will polish them up for publication. Use this opportunity to earn extra money to buy Victory bonds and help win the war.

1. Economizer Valve Test

by A. W. Backus, Lowell, Mass.

When overhauling Ford or any Chandler-Groves carburetors using an economizer-valve, it is sometimes hard to tell if the valve is leaking even if a test is made with the flange part of the carburetor body removed. The following test procedure will show if the valve is defective: Take a small rubber suction-cup and make a hole in the center. Insert a piece of small rubber hose in the hole and seal the hose to the suction-cup with cement. Attach economizer valve to the cup and the end of hose to your tongue. If the valve is okay you can hold the vacuum with your tongue. Better still, if you have a vacuum pump in your syncrograph use that, and you can readily see if valve is defective.

2. Rocker Shaft Oiling

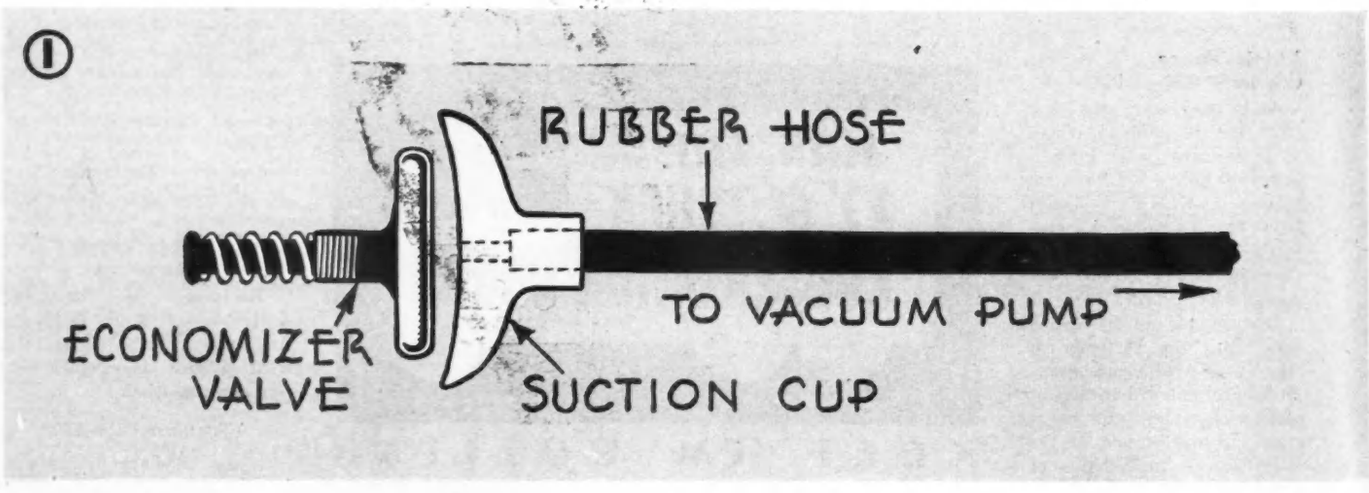
by Lou Sondershaffer, Germantown, Pa.

We have had difficulty with some Chevrolets in getting enough oil to the rear rocker-arm shaft and push-rods. To overcome this trouble we removed the oil fitting between the front and rear rocker shafts and drilled out the present oil metering hole in the fitting to 1/8 in. This allowed sufficient oil to reach the rear rocker-arm shaft and push-rods.

3. Chevrolet Clutch Repair

by Frank Supiot, Phila., Pa.

We have had several complaints regarding a rattling noise in Chevrolet diaphragm type clutches, the noise occurring when the engine is idling with the clutch pedal depressed. To overcome this trouble we dropped



the clutch underpan and put three center punch marks in the clutch cover on each side of each release finger. This removed all the play in the fingers, thus eliminating the noise. This method of repair saves rebuilding of the clutch cover.

4. Clutch Bearing Oiler

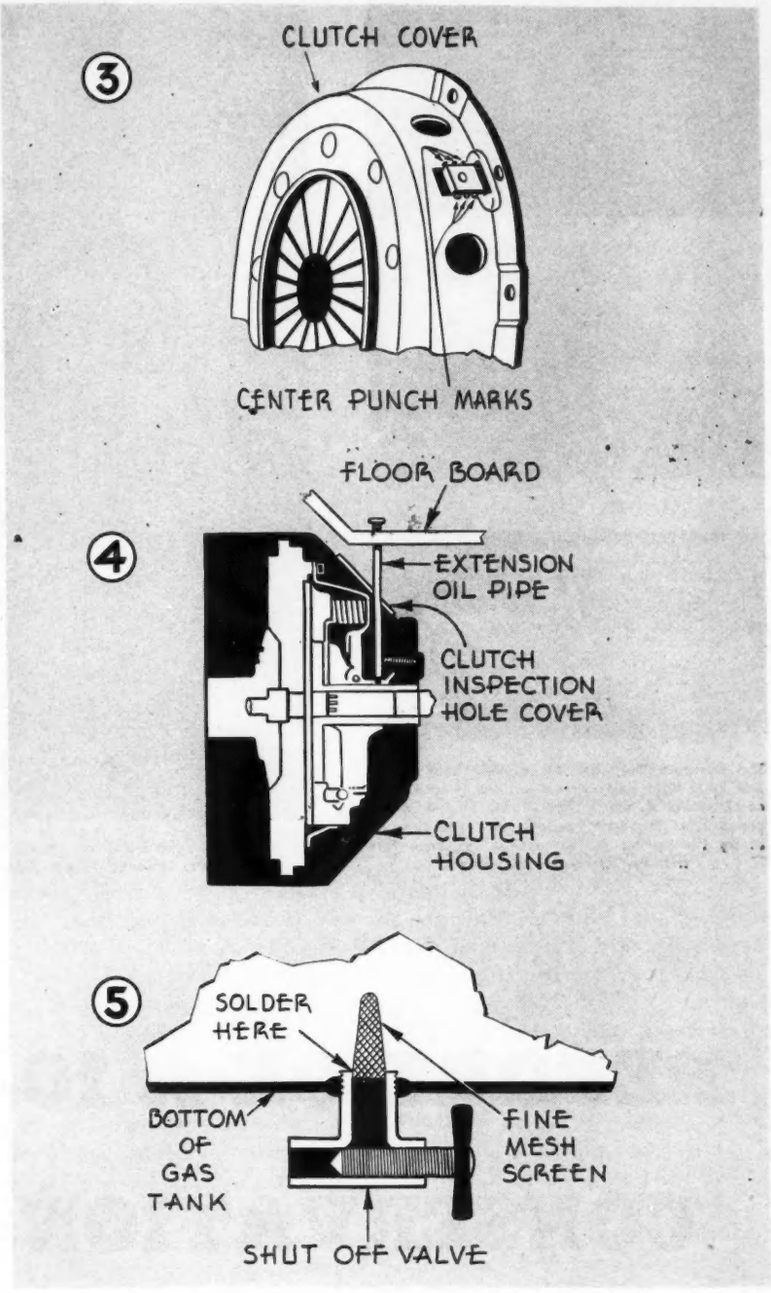
by F. W. Green, Oshkosh, Wis.

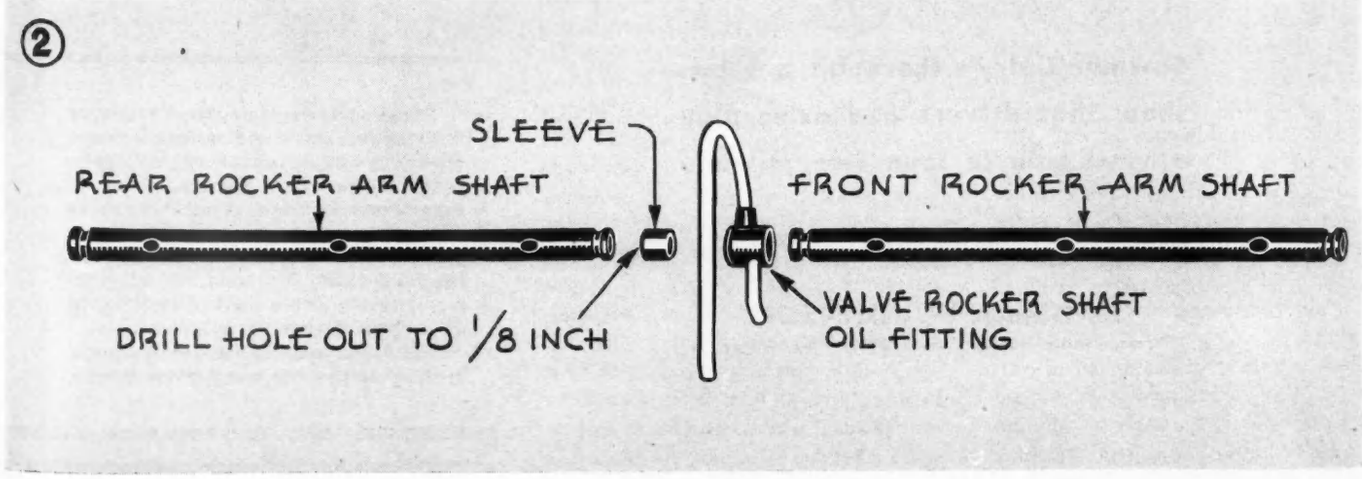
On some c. o. e. trucks the oil cup for the clutch throw-out bearing is placed in such a position that it is very hard to reach, and, because of this, it is sometimes passed up when the truck is lubricated. In time, of course, this will mean that the bearing will burn out due to lack of lubrication. To overcome this difficulty I remove the original oil cup and make an extension from 5/16-in. metal tubing, so that it extends up into the cab of the truck. This places it in view and makes it a simple job to oil the throw-out bearing.

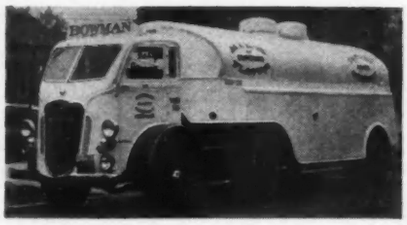
5. Gas Tank Screen

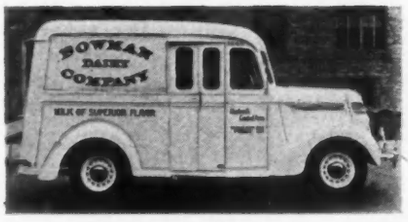
by Howard L. Kline, Allentown, Pa.

Having had trouble with foreign particles getting into the gas tank of a Ford c. o. e. truck and clogging the shut-off valve, which resulted in frequent road failures, I devised a means of repair which has proved satisfactory. I removed the shut-off valve and soldered a cone-shaped screen made of fine mesh screen, so that it extended into the gas tank about two inches. This method of repair will prevent any foreign matter from clogging the valve. Before this screen was installed, it meant that every time the valve became clogged, it was necessary to remove gas tank and clean it out.









The Bowman fleet consists of 200 heavy duty and 1300 light delivery units. The truck-trailer combination shown in the center of the above group is of the rear tandem axle type refered to by the author in this article in connection with his tire-axle experiments

Rolling radius check-ups are made at frequent intervals between periodic inspections. If a discrepancy is found on any wheel, it is removed immediately to be properly rematched

REPORT ON A 10-YEAR TIRE CONSERVATION PROGRAM

Bowman Dairy's thorough methods show that drivers and axles play a vital role in long tire mileage

by GLENN W. JOHNSON
Transportation Manager, Bowman Dairy Co., Chicago

This progressive dairy fleet has made an intensive study of tire maintenance, especially as it affects heavy duty, rear tandem axles. The record of its experiences and conservation methods over a 10-year period contains data of interest to all fleet operators because the 1500-truck fleet consists of vehicles ranging from light deliveries to 40-ft. truck-trailer combinations.

This fleet's maintenance methods are prolonging tire life and providing max-

Bowman mechanic checks circumference with steel tape in matching duals

imum trouble-free service. Every tire, new or old, gets a daily check-up. At 3,000 miles, the wheels are jacked-up or removed and the tires carefully inspected, measured and matched. In between inspections, frequent rolling radius inspections are made.

A 15 per cent average increase in tire mileage for a 10-year period, and an average cost reduction of 6½ per cent prove the efficacy of methods explained in detail in the article.

Glenn W. Johnson

THERE are several reasons why our company is giving special attention, during the present war emergency period, to the conservation of the tires on our 1500 units of light and heavy-duty motor equipment being used in the processing and delivery of milk in the Chicago area, which includes about 200 units of heavy-duty equipment for handling bulk shipments of milk and other dairy and egg products.

One of these reasons is embodied in a message which we have been obliged recently to pass on to our drivers; namely, when the present tires are "shot," we are not certain that they can be replaced. Hence, it is to each driver's personal interest to work with us for the best conservation of the tires now on his vehicle.

The second reason is the relationship of tire conservation to the safety of our equipment and drivers. That is for about 10 years we have closely associated the maintenance with the care of the brakes. An as endorsement of this program, our company has been able to develop, during this period of 10 years, one of the best fleet safety records among all of the large dairy companies of the country.

Third, our experience has proved that tire conservation is closely related to the general maintenance and conservation of our trucks, especially to the maintenance of the differential axles on our heavy-duty equipment.

We estimate that our tire conservation program, during the past 10 years, has increased the tire mileage of our heavy-duty highway equipment by at least 15 per cent, and has cut tire mileage costs for these vehicles by 6 to 7 per cent.

The start of our intensified tire conservation program for our heavy-duty trucks goes back about nine years to some original axle-maintenance experiments. Our fleet was one of the first large fleets in this section of the United States to adopt the dual differential axle drive for its heavy-duty trucks. In fact, some of the field engineers of one of the companies pioneering in this equipment, and engineers of certain truck manufacturers, worked with us for a number of years to perfect the design and application of the then new dual axle and power-equalizing devices.

What I have always considered one of the high spots in our mutually conducted dual axle experiments came in October, 1933. Previously, I had been observing two things especially about some of our trucks fitted with dual differential axles: these were mostly truck-trailer combinations with 18 tires and up to 40 ft. in length, and with gross loaded weights up to 36 tons. One of the things I had observed was that the dual differential axles of some of these heavy-duty trucks had been heating excessively during their runs of 100 to 150 miles. This had resulted in a number of operating delays due to overheating and in costly road failures from burned-out bearings, worms and axles.

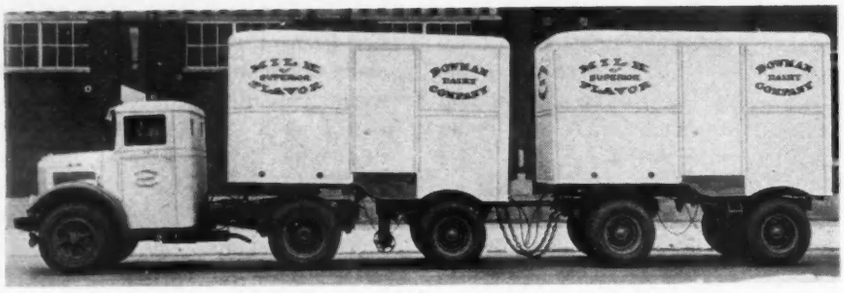
I had also been observing, though at first I had not especially associated the two results, that some of the tires on these heavy-duty trucks had been wearing excessively; there had been a number of troublesome and costly road failures of tires.

One of the specific tests to which I have referred was made, during and after a highway axle failure, on a heavy-duty outfit with a gross weight of about 72,000 lb. The rear dual axle became so overheated that the driver was obliged to stop after about 60 miles. It was an October day, with an outside temperature of 76 deg. Fahr. Our test showed that the front dual axle had a temperature reading of 136 deg. and the rear axle 330 deg. The road inspection indicated that the axle gears and bearings aparently had been well lubricated and were in first-class mechanical condition.

As an emergency measure the two axles and their differentials were disconnected by our relief mechanics. The outfit then completed its trip with driving power from only the rear tandem axle. The temperature of this axle, even though it had been doing double duty, dropped during the remaining 60 miles of the trip from 330 deg. to 260 deg.

By that time we had developed the theory that this excessive temperature in the dual differential axle had been caused largely or wholly by the unmatched tires on the wheels of the vehicle. That is, we observed that the

REPORT ON A 10-YEAR TIRE CONSERVATION PROGRAM



Bowman's Dairy tire maintenance records over a 10-year period have revealed the necessity for daily tire checking. They have developed various methods, described in this article, of checking their numerous dual sets with speed and accuracy

FORM 699

BOWMAN DAIRY COMPANY
TIRE CHANGE RECORD

UNIT NO. _____

DATE _____

POSITION OF TIRE REMOVED _____

SIZE _____

MAKE _____

SERIAL NO. _____

REASON FOR CHANGE _____

SPEEDOMETER READING _____

MAKE OF TIRE PUT ON _____

SERIAL NO. _____

DISPOSITION OF TIRE REMOVED _____

SIGNATURE _____

INSTRUCTIONS

Make out in duplicate.
Send original to HEAD OFFICE.

The information obtained on this form supplies the dairy with important tire service data

tires were of slightly different circumferences and thus were rotating at different revolutions per mile. This naturally had developed a kind of worm-movement "fight" among the different tires of the twin axles and within the differentials of these axles. This supposition was proved by our follow-up tests the next day, after all of the tires on the outfit had been carefully matched and balanced. The new test, made with an outside temperature also of 76 deg., showed the rear of the tandem axles to have a temperature of only 180 deg., and the front axle a temperature of only 156 deg.

The results from this series of tire and differential axle tests gave us a real incentive for starting, in 1933, an intensive shop program for the careful matching of all dual tires.

Since then our tire mileage for heavy-duty equipment has increased by at least 15 per cent, taking into consideration the increased mileage built into such tires by the manufacturers. Today we have practically no tire road failures on our highway equipment. We are now getting an average of 65,000 to 70,000 miles in original runs from these tires; in contrast to original runs of 25,000 to 30,000 miles from tires on our lighter city delivery outfits (mostly under 2½ tons), though these tires have a large hazard from broken glass and alley rubbish and from more starting and stopping and corner turning.

The kinds of damages possible both to tires and axles from poorly matched tires was explained in some detail with charts, diagrams and photographs in an article entitled "How Tires Affect Axles" by Lawrence W. Fischer, executive engineer, Timken-Detroit Axle Co., in the May, 1942, issue of COMMERCIAL CAR JOURNAL. In his article, Mr. Fischer explained that a difference in the loaded radius of a wheel may be caused either by improper inflation or by different tire diameters due to size differences or differences of wear. He also explained why overheating may occur in the differential gears and pinions.

"The differential," said he, "is expected to function as a speed balancer only for momentary periods for turning corners and not for continuous operation."

All of our mechanics and also the drivers of our heavy-duty equipment, who are mostly men of long experience and carefully trained for their work, now understand the technical reasons why it is essential, for the good of the equipment, that all tires be carefully matched. They understand that unmatched duals will "fight against each other" in trying to adjust their respective speeds, and this inevitably will overwork and overheat the differential parts. This condition also will grind away tire surface and cause a steady waste of rubber, lubricant and tractive power.

After we had started our tire-matching program we began to make surprising little discoveries about tires. First, that the different leading makes of tires—supposedly standardized as to sizes and weights—often will vary in height under load as much as 1½ in. between two brands for the same description of tire; which means a variation of approximately 5 in. in their respective circumferences. This also means that the smaller of two such tires must make many more revolutions in each mile of its travel than the larger tire. This, too, will develop a "tire fighting" condition between two such tires, with consequent waste in rubber, power and risk of damage to bearings and axle parts. It is our experience also that two new tires, of exactly the same make and supposedly of exactly the same size, often will vary in height as much as ¼ to ½ in., which means a circumference difference of about three times as much.

Today, in our shops, to insure that all supplementing pairs of tires are properly balanced, such tires are carefully selected, measured and matched. The first stage in this matching program applies naturally to a set of new tires being placed on the drive wheels of a new truck or tractor. It is our plan to have all such tires, both on the outside and the inside dual wheels of single or twin axles, as nearly as possible of exact size.

When a new vehicle is being made ready for road service, usually all of the wheels are removed. The tires being tried out on these wheels are all uniformly inflated to the exact pressure, under full load, as recommended by the tire manufacturer.

(TURN TO PAGE 86, PLEASE)

Laundry Properties maintains a well equipped shop to keep fleet operating costs at minimum

LAUNDRY KEEPS FLEET COSTS LOW

West coast laundry holds maintenance costs at a standstill by employing good men, good tools and a good PM program

by T. J. ESTAGUE
Fleet Superintendent, Laundry Properties, Inc., Los Angeles, Cal.

T. J. Estague

LAUNDRY PROPERTIES INC. owns and operates a chain of laundries and dry cleaning plants in and around Los Angeles. The chain consists of the City Dye Works, Hollywood Laundry, Beverly Hills Laundry, Westwood-Beverly Laundry, Modern Way Laundry, California Laundry, and the California Hotel Plant. It serves 70,000 families in the largest metropolitan area in the country.

As sellers and operators of a cleaning service, it follows that our contact with the people in our community should give a strong impression of cleanliness. To complete the picture, our fleet also should be clean mechanically to maintain our reputation for reliability, as developed over many years of successful operation. Road failures, with their inevitable delays, never would help us hold that impression among our customers and prospective customers.

To attain these highly desirable objectives, we of Laundry Properties, Inc., are, and for years have been, operating a preventive maintenance program for our fleet. It enabled us to gain the above objectives with minimum effort and maximum efficiency.

Equally important is the fact that our fleet maintenance costs are lower than if we operated on the old fashioned, breakdown-repair maintenance methods. Over a period of years we've been able to trim costs down to the lowest possible point consistent with high efficiency. The company's accounting records show that our average fleet operating cost is 4.15 per cent of the total gross volume of sales. Here is the breakdown:

1.35%—gas, grease and oil
.90%—delivery equipment, shop labor and material
1.28%—depreciation
.28%—tires and tubes
.34%—taxes and licenses

4.15%

We are operating today at these figures and do not exceed these percentages in any category.

We have 143 pieces of rolling equipment: 106 half-ton panel trucks used on the routes, 27 utility and spare trucks, and three tow cars. The fleet is made up of six and eight cylinder ½-ton panel deliveries for routes and service, and 1½-ton panel deliveries for relay and transport work.

We operate three garages. They are strategically located at three of

(Turn to Page 90, Please)

FREE PUBLICATIONS

KEEP 'EM ROLLING
USE THIS POSTCARD
NO STAMP NEEDED

VALUABLE AIDS FOR FLEETMEN

A selected list of the latest literature — books, pamphlets and catalogs — intended to help fleet operators solve maintenance and operating problems. They are more valuable today than ever before. All are free. To get your copies simply fill in the numbers on the postcard and mail. No stamp is needed.

L34. Tips on Lathe Care

The time required to keep a lathe clean is more than offset by the added life, increased production, and greater ease of operation. The lathe will retain its accuracy indefinitely if it is kept properly cleaned and lubricated. Anyone concerned with lathe operation will find much helpful information in a new 16-page booklet entitled "Keep Your Lathe Clean." This booklet shows how keeping lathes clean will help increase production, reduce scrap, and lengthen the life of the lathe. Its 19 illustrations supplement the clearly written text matter to fully describe the best method of cleaning the various lathe units. Write L34 on the postcard for your free copy.

L35. For Army Officers

Here is a new catalog available free to any army officer who is engaged in vehicle maintenance work. The catalog lists brief descriptions and complete application data on brake linings, clutch facings, fan belts and radiator hoses, as applied to army vehicles. This catalog should be a great help to army officers in determining interchangeability for these parts between various army vehicles. Should be a must to any officer concerned with automotive replacement parts. Write L35 on the postcard for your free copy.

L36. Truck Lighting

Here is a new publication that every fleet operator will want for his reference file. It contains sections on ICC and state requirements of lighting devices for commercial vehicles. There is a four-page section covering basic ICC lighting requirements. This section is in full color, showing the nature and location of lighting devices for commercial vehicles. There is also a 16-page section on individual state lighting requirements. Based on the latest available data from every state, this section offers a brief interpretation of the major lighting demands of every state. This 48-page booklet, illustrated in color, describes a complete line of lighting devices for trucks, tractors, buses and all heavy-duty vehicles. Write L36 on the postcard for your free copy.

L37. Engine Performance

Fleet operators can help conserve critical materials required for replacement parts by increasing the service and life of their present equipment. For efficient operation of engines a new illustrated 64-page book, "Engine Performance," is now offered. This book should be of help to operators in keeping engines operating efficiently, thereby conserving critical materials. A thorough manual on engine tune-up and performance, it should be useful to all fleet operators. Write L37 on the postcard for your free copy.

L38. Rolling in Snow

The problem of many fleet operators in winter-time is to keep delivery routes open when the snow flies. For operators who wish to keep their deliveries rolling as usual, no matter how deep the snow, an illustrated booklet, "Snow . . . Friend of the Enemy," is now offered. This booklet covers the use and application of snow plow equipment for trucks of 1½-ton capacity and over. It will prove of special interest to operators who encounter adverse snow conditions, and who must maintain regular deliveries. Write L38 on the postcard for your free copy.

L39. Brake Drum Facts

When it becomes necessary for fleet operators to renew brake drums on their equipment, they should have all the facts pertaining to drum materials. A booklet is now offered to operators which gives an authoritative discussion of brake drums and materials. It shows that by the use of proper materials it is possible to produce drums that provide such desirable characteristics as greater resistance to braking heat; smooth, sure braking action, and longer life for drum and lining. The results, foretold by scientific research and data, have been proved by hundreds of thousands of miles on the highways. Write L39 on the postcard for your free copy.

L40. How to Save Tires

Rubber conservation is now a vital factor to every fleet operator who is trying to get every last mile out of his present tire equipment. To help him attain this end there is a 24-page book now offered dealing with the subject of saving truck tires. The book is profusely illustrated and packed full of vital facts. Every condition and its remedy is described and illustrated so that operators can understand it. Tells how to detect mechanical defects that waste tire mileage; shows the truck operating conditions that affect tire mileage and tells how to cut costs further by describing the tire conditions that affect mileage. It also tells how to install a tire record system that eliminates all guesswork in deciding when to replace tires, when to recap; shows the location and condition of every tire in the stock pile; shows the cost-per-mile of every tire scrapped; furnishes data necessary for certificates. This book should be a must to every operator who is trying to stretch his tire mileage. Write L40 on the postcard for your free copy.

L41. Water Softener Sample

Here is an opportunity for fleet operators to receive a free sample of a cooling system cleaner and preservative. The manufacturer claims that when it is added to the water in the cooling system, it will disintegrate the scale and rust already formed in the water jackets and radiator, and guard against any further formation of rust and scale. A special ingredient prevents rubber hose deterioration. It is guaranteed harmless to metals, including aluminum, paint, chromium, and to the hands. Fleet operators are invited to write in for a free sample, and test for themselves how this preparation can help to safeguard their fleet against costly repair replacements caused by over-heating. Write L41 on the postcard for your free sample.

KEEP 'EM ROLLING

USE THIS POSTCARD

NO STAMP NEEDED

NEW PRODUCTS ★

P47. Tire Sandal

A new cotton pile fabric tire "sandal," made of non-strategic materials and treated with an asphalt emulsion, has just been developed by the United States Rubber Co.

Tests indicate these "sandals" will give about 3,000 miles of additional life to tires. For efficient use of these "sandals"

it is necessary to carry 40 pounds of pressure in the tire and limit the speed of the vehicle to 30 miles per hour. The "sandal" is now being manufactured in popular passenger car sizes. Further development will be conducted to obtain a material suitable for use on light delivery trucks.

Use free postcard for more details

P48. Luminous Blackout Fabric

A luminescent coated fabric which glows with visible light in complete darkness, has been developed by E. I. du Pont de Nemours & Co., Wilmington, Del.

The fabric may be cut into letters or strips to mark doorways, staircases, handrails, fire extinguishers, arm bands, instrument dials, control panels, etc. The manufacturer claims it is cheaper than luminous paint, and can be applied to any type of surface with glue, paste or thumb tacks. The fabric may be removed with ease whenever necessary. Exposure to electric light or sunlight for only 30 seconds is sufficient to give the coating the power to glow for a minimum of four to six hours. The bluish light emitted by this new material under total blackout conditions may be renewed an endless number of times by re-exposing to light.

Use free postcard for more details

FOR FLEET OPERATORS

The latest in shop equipment, supplies, replacement parts and accessories developed by manufacturers for fleet operators. For more details of any product described, fill in the number on the postcard and mail. No stamp needed. Also use the postcard for additional information on any product advertised in this issue.

P49. New Truck Sander

A new model truck sander has been announced by the Lintern Corp., Berea, Ohio, manufacturers of traction sanders for trucks and motor coaches. In keeping with present conditions the new sander contains a minimum amount of critical materials. When pavements are wet or icy, heavy vehicles starting from loading docks and curbs frequently spin their wheels. Under such conditions, tires heat up quickly and the unnecessary revolutions wear off ounces of rubber at the start before the tires can really take hold. It is claimed that by the use of sand a satisfactory coefficient of friction is maintained between the wheel and pavement.

Use free postcard for more details

P50. War Bond Decals

Many fleet operators are patriotically cooperating with the War Savings Staff, United States Treasury, in the promotion of War Bond sales. Many more would, doubtless, like to cooperate.

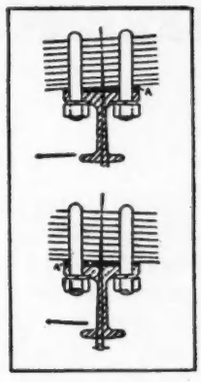
The Permalux Co., Chicago, announces that attractive "Buy War Bond" decalcomanias are available to fleet operators. These can be readily transferred to trucks and help in the drive to meet war costs.

These decals are "Permalux" Kolorfilm, made with du Pont "Dulux." They are stocked ready for delivery and low in cost.

Use free postcard for more details

P51. Victory Model Shim

A new Bear Victory Model self-lock shim is announced by the Bear Manufacturing Co., Rock Island, Ill. Instead of being made of metal, the victory model is made of tough non-metallic material, which is claimed to be entirely satisfactory for



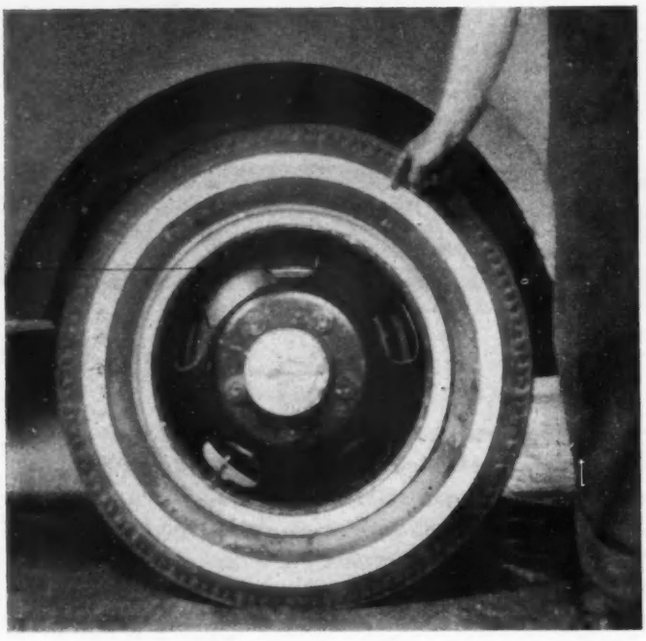
the purpose of correcting wrong axle caster, stopping shimmy, tire scuffing and hard steering. The new model shim has the same patented self-lock feature which prevents the shim from creeping out.

Use free postcard for more details

P52. Gas and Fire Extinguisher

Anticipating the possibility of gas attack, the O. H. Adams Co., Milwaukee, Wis., has introduced a war gas and fire extinguisher. It is recommended by the manufacturer as an effective fire extinguisher and also as a decontaminator for the three major war gases: chlorine, phosgene and chloracetophenone - tear gas. The new product is also recommended and has been successfully demonstrated in combatting automotive, airplane, industrial and marine fires, and is effective for household and factory fires. It is also said to be non-in-

(Turn to Page 124, Please)



It costs a driver money to scuff this white line

This jar dramatizes the prevention of flat tires

BAKERY'S SAVINGS STUNTS

Ira Harkenrider

OUR product is bread. We operate 23 trucks to deliver it to dealers in Fort Wayne and smaller towns within a 50-mile radius.

Tires—good, safe tires—are indispensable to deliver our perishable product without interruption. From the very day that tire rationing began, we saw a real danger of a rubber shortage that might keep us from getting enough tires to keep our fleet going, even though our priority rating entitled us to new tires to deliver food products to retail stores.

We realized even then that we could not go on using tires under the old method of slip-shod service and new replacements at will. Therefore, we began to develop a tire maintenance schedule that would make our stocks render much longer mileage than ever before. In other words, we resolved to double or even treble all previous mileage records, if humanly possible to do so.

Fortunately, we did work out two new methods from which we have obtained excellent results in saving rubber. The results to date demonstrate that our desired objective may be achieved. But first, let me explain that our management already had a policy in effect which helped us attain satisfactory tire economy; namely, inasmuch as all of our trucks were 1½-ton units, we standardized on 6:50 x 20 tires. Obviously, the economy and benefits are: one size to stock and interchangeability. Here are the extra services employed to gain our objective:

1. Remove foreign particles from all tires each week

We put this innovation to work immediately after tire rationing began. Our management put it up to this department and to our driver salesmen in this manner: "It is no longer a matter merely to comply with Federal regulations, saving our tires is self-preservation! To stay in business at all, we must protect our tires and leave nothing undone to keep them rolling for the duration. This is important! It is necessary! —until additional rubber, real or synthetic, can be found and produced in quantities sufficient to supply national needs."

In compliance, we introduced a program of rigid examination of all tires on all trucks for broken glass, tacks, nails, gravel or other harmful particles and to remove them: dig them out no matter how small or how deeply embedded in the rubber stock. This is one of the most important things now, in our opinion, to help get the last safe mile from our tires.

The urgent need for this almost universally neglected service has been brought to our attention many times before, by tire manufacturers and dealers alike. Unfortunately for our economy, we did not heed this good advice before the emergency. Now we have got to do it, whether we like it or not, or lose our business for lack

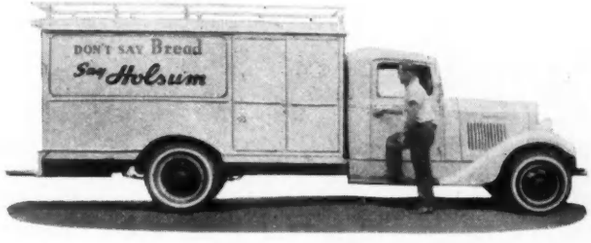
There's always a pleasant way to do any job—even conserving tires.

Holsum Bakery tells how it has focused the attention of all its employees on the value of daily tire inspections. Enough harmful, foreign particles have been removed to bring premature road failures to nearly all their tires.

The next step was the forming of the Holsum Curber's Club designed to penalize, in an agreeable way, all drivers who scuff the tires on their trucks.

Proof that these ideas work is the appreciable increase in tire mileage, fewer casing breaks and an increase in the number of casings suitable for recapping.

ENLIST DRIVER SUPPORT



Display of tire-damaging particles and "Curber's Club" fines for sidewall scuffs are two ideas that produced good results

by IRA HARKENRIDER
Superintendent, Motor Maintenance, Holsum Bakery Co., Fort Wayne, Ind.

of adequate equipment. As a result, we are now doing everything humanly possible to make our tires last longer and safe for recapping, not once but twice or more often if possible.

The primary things we do in this program, therefore, are: first, keep the tread stock free from foreign particles before they cut deeper and deeper into the carcass. Second, keep the carcass dry. Plug the larger holes by spot vulcanizing so moisture can't get in to rot the carcass, because we know that this causes premature blow outs or, what is worse, multiple carcass breaks which makes it unfit for recapping.

Failure to keep this service going, without let up, wastes rubber, and puts many almost priceless tires out of service for good.

2. Dramatize these facts by demonstration

The vast amount of foreign objects that our tires picked up amazed us. Up to this time little or nothing was done about it; none of us realized the danger to our tires. Now, we decided to dramatize the importance of removing these foreign objects, and to take super care of our tires.

What the salesmen see, they seldom forget. We demonstrated the importance of this conservation service by putting all the foreign particles taken from the tires in a glass jar and mounting it on one end of the bulletin board which is located near the garage entrance.

(TURN TO PAGE 68, PLEASE)

Metal spraying steering arm spindle pin. Time: 8 min. Material: Little over 1 lb. 1/8-in. wire

EDITOR'S NOTE—The material in this article is extracted from a comprehensive paper, discussing in detail four known and available methods of reclaiming and renewing worn automotive parts, which was presented by the author at a West Coast S.A.E. conference. No attempt is made in this article to describe the four methods in detail. The article contents itself with enumerating many of the parts that can be salvaged by each method, in sketching the advantages of each method, and in presenting some cost figures that may point the way to economy for other fleets.

PARTS SALVAGING

by ELLIS W. TEMPLIN

Automotive Engineer, General Plant Division, Bureau of Power and Light, City of Los Angeles, Cal.

Ellis W. Templin

IT IS the purpose of this paper to discuss four known and available methods of reclaiming and renewal of worn automotive parts; namely, metal spray, welding, hard facing, and hard chrome plating. The information here given is based upon successful American truck fleet operator experience, as far as possible.

WELDING

GAS WELDING—Gas welding is a form of fusion welding, in which the heat required is supplied by a high temperature flame produced by burning a mixture of oxygen and acetylene. The two gases are mixed in the proper proportions in a welding blow-pipe or torch, which is designed to give the operator complete control of the welding flame.

Fundamentally, oxyacetylene welding may be considered as bringing two pieces of metal together and melting the edges in contact by manipulating the oxyacetylene flame produced at the tip of the welding blow-pipe or torch.

It is possible to produce sound, strong joints in metals without actually melting the base metal. Thus, in brazing or bronze welding, the edges of the joint are simply heated to a dull red heat by the oxyacetylene flame. With the base metal at the proper temperature, and with the aid of a suitable flux, molten metal from the brazing rod will unite with the base metal to form a strong bond. A properly made brazed joint in mild steel is quite comparable to a true fusion weld.

ELECTRIC ARC WELDING—In electric arc welding, the melting electrode furnishes the "filler metal," the arc being maintained by manually feeding the melting electrode at a uniform rate toward the base metal. In atomic hydrogen and carbon arc welding, filler metal in wire or rod form may or may not be manually fed into the arc and melted simultaneously with the base metal.

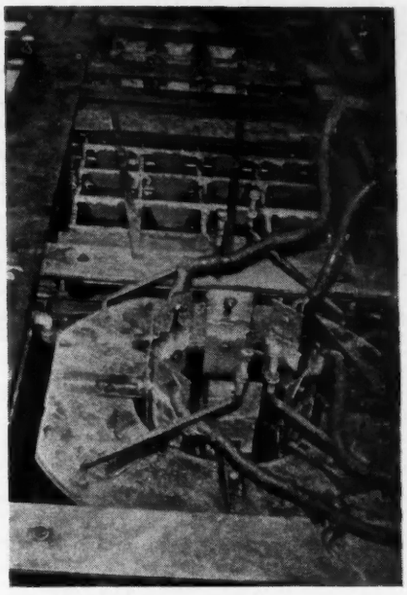
Following are the chief causes of weld failures:

1. Improper welding rod for the work.
2. Improper size of welding rod.
3. Improper preparation of weld joint.
   a. Bevel too narrow.
   b. Bevel not spaced properly.
   c. Work not thoroughly cleaned.
4. Insufficient preheating.
5. Excessive preheating.
6. Incomplete slag removal.
7. Overheating the weld area.
8. Excessive weld metal.
9. Oversized tack welds.

Fleet operators report successful experience in reclaiming and renewal by welding processes the following lists of automotive parts.

BY GAS WELDING: Aluminum castings, anchor plates, axle housings, batteries, bearing housings, bell housings, bodies, brackets, brake drums. bushings, cabs, clutch parts, control rods, crankcases, iron castings, cylin-

Hard facing an engine valve. The basic equipment necessary for this work is the same as that used for welding. The special fixture illustrated aids operator in depositing metal coating evenly



Installation of several deep tanks for hard chrome plating of such parts as long shafts

PROCESSES AND POINTERS

der blocks, cylinder heads, door hinges, door locks, door handles, propeller shafts, exhaust pipes, fans, fenders, fender brackets, fifth wheels, frames, front axles, gasoline pumps, gasoline tanks, gears, gear covers, gear shift levers, grilles, hood parts, housings, manifolds, motor supports, oil pans, radiators, rims, rollers, seat frames, shafts, sheetmetal parts, shock absorber links, speedometer cables, spindle arms, spring hangers, spring shackles, steering knuckles, step plates, tail gates, tie rods, tire chains, tools, torque tubes, transmission cases, transmission shafts, valve covers, water pumps, wheels, wheel bushings, wheel hubs.

BY ELECTRIC ARC WELDING: Axle flanges, axle housings, bodies, brackets, brake cams, brake drums, brake levers, brake shoes, bumpers, cabs, clutch parts, collars, crankcases, cylinder blocks, cylinder heads, differential gear cases, doors, door hinges, door locks, drive shafts, exhaust pipes, fenders, fender brackets, fifth wheels, flywheels, floor plates, frames, gears, locks, motor supports, oil pans, plates, rims, shackles, shafts, spring hangers, tail gates, tie rods, tire chains, tractor parts, transmission cases, wheels.

BUILD UP WITH BRONZE: Armature shafts, axle housings, axle shafts, bearing seats, bearing surfaces, bell cranks, brake cams, brake drums, brake levers, brake pedals, brake pins, brake shafts, brake ratchets, brake shoes, bushings, castings, clevises, clutch parts, clutch plates, cylinder heads, differential carriers, door plates, differential cases, propeller shafts, flywheel faces, gears, gear shift levers, generator pulleys, manifolds, oil pans, pistons, pump shafts, rims, roller bearing cups, spindles, spring hangers, spring shackles, studs, thrust plates, stud holes, tie rods, tools, torque tubes, transmission covers, valve seats, water pumps, wheel bearings, wheel hubs, worn holes, worn gears, worn shafts, universal joints.

Costs for repairs by welding of automotive parts are usually well within the cost of replacement. Typical job shop prices on cylinder-head reclaiming and renewal complete are:

1932 Chevrolet	$ 7.50
1933-34 Chevrolet	9.00
1935-41 Chevrolet	10.00
Caterpillar Tractor RD8	50.00
Caterpillar Tractor RD7	40.00
Farmall International Tractor	15.00
AC Tractor GMC Diesel Engine	12.00

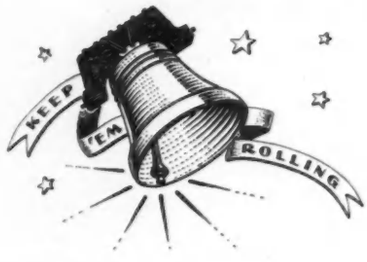
HARD FACING

Hard facing is the process of welding on to wearing parts a coating edge or point of a metal highly capable of resisting abrasion or wear. In other words, a metal surface which,

(TURN TO PAGE 96, PLEASE)

HUBER'S MILE-PINCHERS MULTIPLY TIRE MILEAGE

Careful check-up from tires to roof not only boosts tire life but other parts as well



When this fleet scraps a tire, there isn't a safe mile left in its carcass. It has been put through an average of 14,000 inspections to obtain maximum trouble-free service. Some of its mile-adding methods are:

1. Tire man on every shift.

2. Inspection after every trip.

3. Double - checking tire pressure gauges.

4. Careful tire matching, balancing and switching program.

5. Vehicle speed control.

In addition to these tire conservation measures, the maintenance chief of this over-the-road carrier points out what steps are being employed by his organization to increase the life of bodies, radiators, electrical systems and mechanical parts.

In the December issue Floyd O'Neal will outline various gasoline and oil economy measures which he has found successful.

Floyd O'Neal

WE'RE the biggest bunch of mile-pinchers in the country at the Knoxville terminal of the Huber & Huber Motor Express Co. these days and we're proud of it.

When we get through squeezing the mileage out of a tire there just isn't anything anybody can do to get even one more foot out of it. Because we've inspected it, recapped it again and again, repaired it, swapped it from wheel to wheel and tractor to trailer, and finally, when the end is near, used it up as a spare. When the casing just gives up the ghost, we turn it in promptly as the scrap rubber it really is

When we get through with a motor or body part it has seen more miles than its maker ever hoped for and had the care and grooming of a Kentucky thoroughbred.

It takes work and sweat and a lot more thinking and trouble than we used to put into it, but we're finding that it pays in two ways.

We get more miles out of everything we have than we ever got before, even with an excellent past record of conservation and maintenance. And, best of all, we save things our country needs to beat the Axis, without cutting down on our service.

Huber & Huber has about 250 trucks, 125 tractor-trailer outfits, and about 150 trailers. Figuring 200 over-the-road trucks doing about 100,000 miles each last year, we operated about 20,000,000 miles. We carried about 327,000,000 pounds of freight.

We feel that our ability to keep on carrying freight during the months ahead will be a vital contribution to our country's war effort. That's why we're trying so hard to cut out waste, conserve on materials and keep our equipment in top shape with as little drain as possible on the nation's reserves of rubber and metals.

For just one example — we started saving the little metal backs

After every trip each truck is given a front-end check-up to conserve tires and increase mileage

by FLOYD O'NEAL Maintenance Chief, Huber & Huber Motor Express, Knoxville, Tenn.

off self-vulcanizing patches months before it became necessary to turn in old parts for new.

Rubber is priceless now. Every mile saved is a mile gained for military use. By paying a lot of attention to each tire, and by taking more trouble changing tires from wheel to wheel, we try to wear them down to the point where the recapper has less than 1/16th in. to work with.

The same applies to motor parts. We try to strike a balance between the extra mileage we get by letting a worn part or motor run a few thousand miles longer and the possibility of greater repairs that might be needed by this practice.

We always have paid a lot of attention to such things as water temperature, the condition of oil and spark plugs. They show symptoms of trouble before the trouble becomes serious, just as the coat on your tongue tells a doctor there's something wrong inside of you.

All this means constant checking. Every time a truck is brought in, we begin at the tires and work up to the roof, checking first and then making every repair possible in the time we have.

Our tires get more care than a baby with everybody from the Hubers themselves down through safety men, tire men, mechanics, greasers, loaders, drivers and gasoline attendants keeping their eyes open.

It doesn't sound possible, but we average some kind of inspection of every tire every 50 miles! If you figure about 70,000 miles total life for a top grade tire, that means about 1400 inspections for each tire.

That same painstaking care goes for every piece of equipment we have. Trailers, trucks, motors, bodies, lights, brakes, grease, oil, gas, and, very important, tools—we act as if they're the last we'll get until we win the war.

During the extremely hot days of the summer, those drivers with a maximum load on day trips put their tire gauges on several tires every 50 miles to see if they're "growing". When a driver finds a variation of 10 lbs. either way, it is up to him to find a place to stop to permit his tires to cool off a bit or, if the pressure is low, to inspect the tire and add air. We found that "growing" was usually due to improperly mated tires or improper loading of the truck, so that one tire carried more than its share. We found that bleeding resulted in continuous internal heating and shortening of tire life. We don't bleed—at all!

When possible, our tires are recapped two or three times, with a total of about 70,000 miles on prewar tires and as low as 40,000 miles on "war" tires made of reclaimed materials. Recaps give from 50 to 60 per cent of the original mileage, providing the camelback is of top grade. A good recap is as safe as a new tire, we find.

We have a practice of starting new tires on the front and moving them back, because they wear longer and we get better steering and more safety with a new tire up ahead. Tires are moved about to equalize wear on all wheels. Special care is taken to see that tires are properly mated.

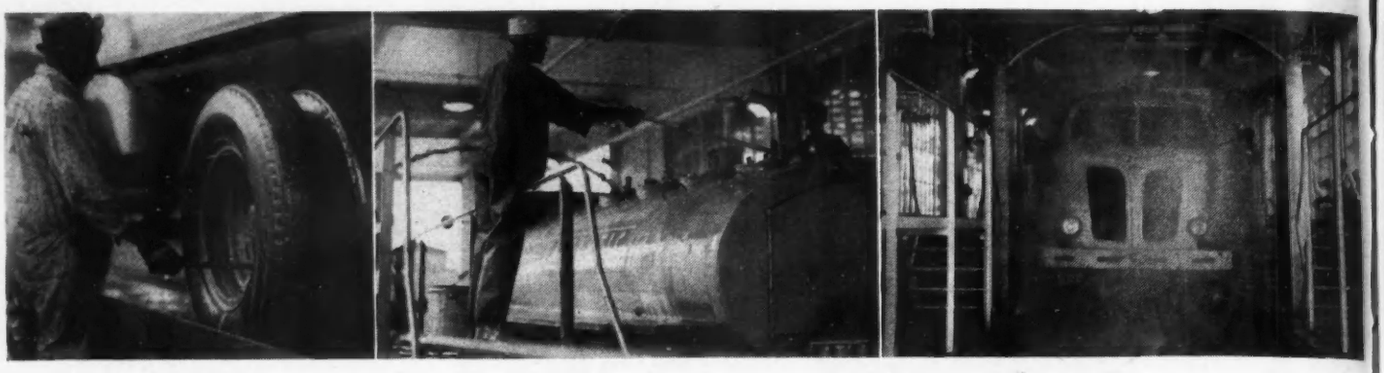
Mated tires must be within 1/16-in. the same diameter as measured by diameter stick; same size, air pressure and approximately same tread wear. The better condition tires are placed on the inside wheels where the greatest wear occurs. When tires are not available in the tire racks for proper mating, they are removed from tractors or trailers in the yard.

When tires are put on mated wheels care is exercised to see that they are properly balanced. While the wheels are jacked up, the tire is spun and the stem watched to see that the wheel is in approximate balance. If badly out of balance, weights are fixed on or, if possible, another tire of the same approximate diameter, but with wear on a different side, is mated.

The tire man sees every tire every trip, making an inspection for stone bruises, breaks, splits and channel cracks. Small repairs are made in the shop, larger ones sent out.

We do not regroove bald tires. The same purpose can be accomplished by putting tires with more tread on driving and steering wheels and bald tires on wheels where they can take it easy, until they are ready for recapping.

(Turn to Page 102, Please)



Large illustration at right on this page shows Atlantic Refining's streamlined washing rack as seen from the driver's entrance. Large photograph on the next page shows a tank truck as it receives a preliminary wetting-down spray with tempered water at 70-lb. pressure to loosen dirt and grease. Upper left illustration on this page shows one of two men located in the pits washing wheels, axles, frame members and underside of the tank. The adjoining illustration shows two men washing the upper parts of the cab, tank and catwalks. After this, the truck receives a thorough rinse and passes on to the last man, shown in the following picture on the next page, who takes care of the front of the cab including windshield and headlights. He also removes excess water with an air gun, as shown in the adjoining picture. The last illustration shows how trucks are towed along washing rack, if stalled by water reaching ignition

STREAMLINED

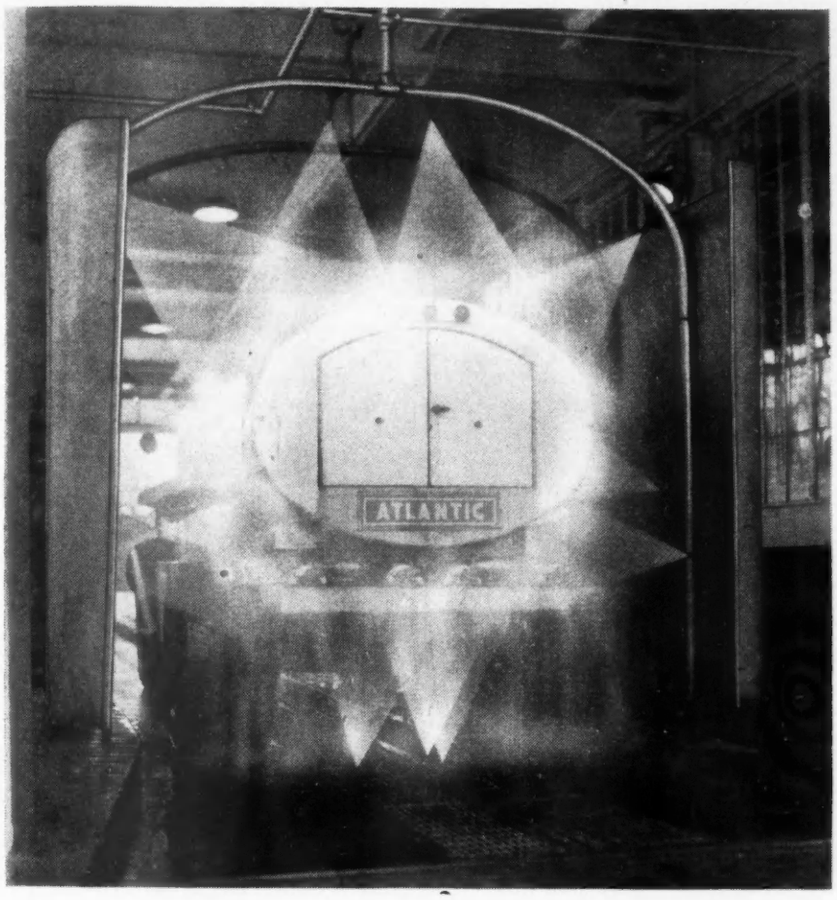
Atlantic Refining's trucks roll in one door and out

Byron Rothpletz

TO US at Atlantic Refining Co., the washing of our trucks is the first step in a successful truck maintenance program. Experience has proved that cleanliness of equipment, thorough lubrication and a systematic inspection program are the fundamental factors in keeping our fleet working at top efficiency.

As a result, we have developed a streamlined system of washing our fleet of 275 tank and dray trucks, which gives us a thorough job, quickly and at a minimum cost. This system is incorporated as part of the design and construction of a new addition recently built to our Philadelphia shop. We call this new building the Wash and Lube Bay. It is divided into three sections: a streamlined mechanical wash rack, a manual wash rack and the lube room, which contains five grease pits.

The mechanical wash rack is 104 ft. long with electrically operated overhead doors at each end, controlled by buttons located at strategic points. In the winter, when these doors are kept closed, the washers can raise and lower them without leaving their working positions in the wash pits or on the platforms. The overall width of the rack is 21½ ft. The center of the washing lane is 8½ ft. wide, which leaves a 6½ ft. area on either side where the washers have ample working room. A link-belt endless chain powered by a 12-hp. motor, equipped with reduction gears and relays, is located in the center of the washing lane. This mechanism is



WASHING

by BYRON ROTHPLETZ
Superintendent of Maintenance, Philadelphia Garage, Atlantic Refining Co.

the other, cleaned in an average of 4 minutes per unit

used to tow the trucks into and through the wash rack when the chauffeur is not available, or when a chauffeured vehicle becomes stalled. Safe operation of the mechanism is assured through the use of a warning howler and numerous stop switches. The entire link-belt mechanism is controllable through an infinite range of speeds and the towing hook is automatically disengaged at the end of the wash bay.

At the front end of the rack, and just inside the door, is located an inverted U-shaped 2-in. pipe which arches the washing lane. Six nozzles, two located on each side and two on the top of the arch, together with four in the pit floor, spray tempered water at 70-lb. pressure. This spray is controlled by a man in the first washing position and is used to wet down the truck entering the wash bay.

The wash rack proper, beyond the first spray arch, is divided into three working areas: first the pits and then the two platforms. The pits are 2½ ft. deep and are used by the four men who wash the chassis. These pits are each equipped with a soap spray nozzle and hose, a high-pressure car washing nozzle and hose, and a tempered water rinse hose. The first platforms, just beyond the pits, are equipped with soap sprays and a tempered water rinse hose. Between these platforms and the next ones is located the rinse arch, constructed in a similar manner to the wetting down arch but equipped with 12 spray nozzles developing a high velocity fan-shaped spray pattern. The last platforms are equipped with air hoses and nozzles and are used in wintertime to blow the excess water from the windshields, catwalks and tank vents.

Practically all of our washing is done in the daytime, as past experience has shown that washing at night takes more time and results in a less thorough job. Our schedule calls for the washing of each tank truck every other day. We employ seven men for the daylight washing program. These men can do approximately 100 trucks in an 8-hr. day. The average time that it takes to wash a truck or a tractor semi-trailer is four minutes.

Normally, the chauffeur brings his truck into the wash rack and remains

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WPB NEWS

Operators Need No Preference Ratings to Secure Parts

Limitation Order L-158, which governs the manufacture, inventories and distribution of automotive replacement parts, does not require a consumer or distributor to obtain a preference rating to secure a replacement part.

This fact has not been generally understood and it has come to the attention of the Automotive Branch of the War Production Board that some dealers have been requesting preference rating certificates from their customers and have been refusing to sell automotive replacement parts without such certificates being produced. The Automotive Branch wishes to make it clear that a dealer has no right to demand a "priority certificate" from civilian customers.

It has also been reported that certain distributors and manufacturers have been demanding "priorities" from retailers before delivering automotive replacement parts. This is not required by Order L-158. To purchase an automotive replacement part, be the buyer a consumer, retailer or distributor, no preference rating certificate is necessary, and manufacturers, distributors, and retailers should so inform their customers.

A producer of automotive replacement parts, however, in ordering materials for such production, will, of course, use the rating assigned him for such purpose by the War Production Board on his PD-25A application, in order to secure the materials.

Manufacture of 4000 Trucks Allowed

Authority to manufacture an aggregate of 4000 heavy trucks of a gross vehicle weight of 16,000 lb. or more was granted by the Director General for Operations, WPB, to 15 producers in order to replace vehicles withdrawn from the civilian stockpile since June 1 by the Army, Navy and Lend-Lease Administration.

Trucks produced under the authorization (Supplementary Limitation Order L-1-H) must be held for rationing under General Conservation Order M-100. The authorization expires Dec. 31, 1942.

Beginning Sept. 1, producers are required to report to WPB's Automotive Branch on the first day of each month the number of units produced in the preceding 30 days (Form PD-571).

Producers are authorized to schedule production of these trucks as though they were rated AA-4.

Producer and G. V. W. groups (by thousand pounds)	Number of units
Autocar Co., Ardmore, Pa.	
16 to but not including 20	60
20 to but not including 25	115
25 to but not including 30	75
35 to but not including 40	25
40 to but not including 45	25
50 to but not including 60	25
	325
Brockway Motor Co., Inc., Cortland, N. Y.	
16 to but not including 20	80
	80
Dart Truck Co., Kansas City, Mo.	
16 to but not including 20	11
20 to but not including 25	12
25 to but not including 30	8
40 to but not including 45	2
60 to but not including 70	11
70 to but not including 100	1
	45
Duplex Truck Co., Lansing, Mich.	
16 to but not including 20	1
25 to but not including 30	3
	4
Euclid Road Machinery Co., Cleveland, Ohio.	
50 to but not including 70	80
70 to but not including 100	50
	130
Four Wheel Drive Auto Co., Clintonville, Wis.	
16 to but not including 20	60
20 to but not including 25	25
25 to but not including 30	14
40 to but not including 45	6
	105
Hendrickson Motor Truck Co., Chicago, Ill.	
20 to but not including 25	2
25 to but not including 30	1
30 to but not including 35	6
	9
International Harvester Co., Chicago, Ill.	
16 to but not including 20	727
20 to but not including 25	350
	1,077
Kenworth Motor Truck Corp., Seattle, Wash.	
35 to but not including 40	10
40 to but not including 45	10
50 to but not including 60	10
	30
Mack Mfg., Long Island City, N. Y.	
25 to but not including 30	90
30 to but not including 35	200
	290
Peterbilt Motors Co., Oakland, Calif.	
35 to but not including 40	6
40 to but not including 45	10
50 to but not including 60	4
	20
Reo Motors, Inc., Lansing, Mich.	
20 to but not including 25	17
25 to but not including 30	7
30 to but not including 35	16
	40
Sterling Motor Truck Co., Milwaukee, Wis.	
16 to but not including 20	2
20 to but not including 25	7
35 to but not including 40	12
40 to but not including 45	7
45 to but not including 50	2
	31
Walter Motor Truck Co., Ridgewood, N. Y.	
20 to but not including 25	90
30 to but not including 35	50
40 to but not including 45	60
60 to but not including 70	50
	250
The White Motor Co., Cleveland, Ohio	
16 to but not including 20	776
20 to but not including 25	591
25 to but not including 30	77
30 to but not including 35	120
	1,564
	4,000

Parts Manufacturing Order Amended

In an effort to aid producers who must make up their production schedules in advance, the Director General for Operations, WPB, has issued amendment No. 2 to Limitation Order L-158, providing that manufacturers of automotive replacement parts may schedule production as if orders received by them had a rating of AA-2X.

The amendment is necessary because producers of replacement parts do not sell on rated orders, and provision must be made so that they can make up their production schedules before the ratings are individually assigned to them.

This applies to material entering into the production of replacement parts for passenger automobiles, light, medium and heavy motor trucks, truck trailers, passenger carriers and off-the-highway motor vehicles.

Truck Releases Now Total 72,207

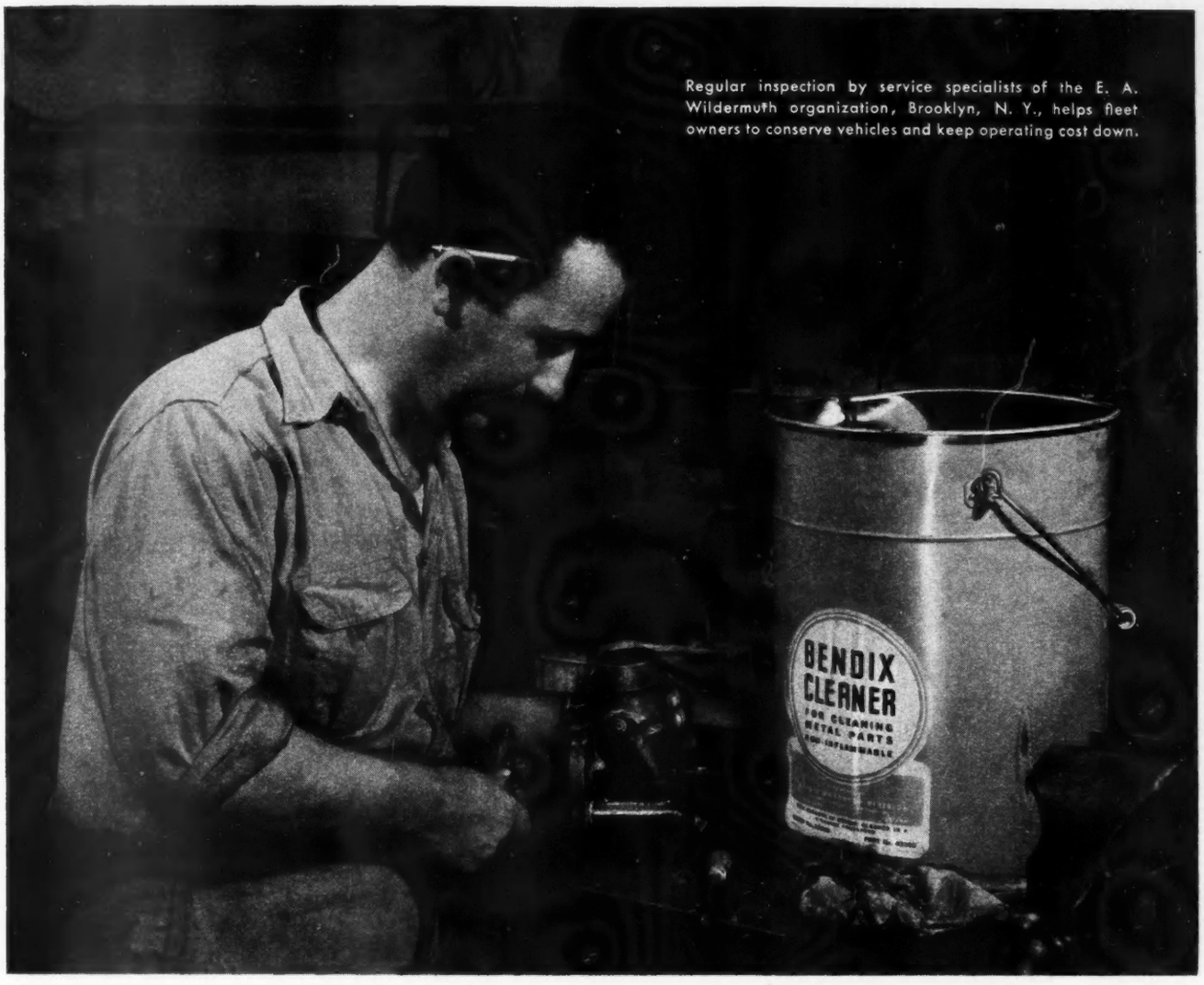
The Automotive Branch of the WPB announced that the total releases on commercial vehicles, as of Sept. 21, is 72,207. Since March 9, when the rationing plan was effected, the breakdown is given as follows: 6243 light, 17,474 medium and 5063 heavy trucks; 3944 trailers and 785 miscellaneous vehicles for civilian users. GEP holders obtained 11,863 light, 17,806 medium and 4553 heavy trucks; 1158 trailers and 3318 miscellaneous vehicles.

Battery Production Plan Announced

A program for production of the minimum number of storage batteries necessary for replacement in passenger cars, trucks, buses and other vehicles during the remainder of this year was announced by the Director General for Operations, WPB. In the same order, battery users are required to turn in their old batteries for scrap when buying a replacement.

Compared with last year, savings of approximately 15,844,930 lb. of secondary lead, 17,222,750 lb. of primary lead and 1,377,820 lb. of secondary antimony are expected.

A technical but important feature of the order is a provision setting forth production standards based on ampere hour capacity and container sizes. It is estimated that since restriction on size became effective Sept. 30, the number of stock sizes of batteries will be reduced from about 100 to 17.



Regular inspection by service specialists of the E. A. Wildermuth organization, Brooklyn, N. Y., helps fleet owners to conserve vehicles and keep operating cost down.

FOR RICHER MILEAGE AND LEANER COST...

FULL COOPERATION with the U. S. Truck Conservation Corps pays! This business of getting the most mileage from transport vehicles for the least dollars is not merely patriotic. It's plain good management. And regular inspection by service experts contributes in many practical ways to the conservation of fuel, rubber, engines, transmissions and brakes. Take carburetion, for instance.

At the time of regular service check-up, the carburetor is cleaned, all air and fuel apertures checked against factory standards, and worn parts are replaced. On reassembly the carburetor is properly adjusted. The resulting smooth, exact metering cannot fail to produce direct and indirect operating economies.

Such care prevents the expense and lost time of break-downs. And when "BENDIX" replacement parts are used, both operator and service man have the assurance today of the same quality of materials and precision of craftsmanship which made these automotive products peace-time standards.

BENDIX PRODUCTS DIVISION
South Bend, Indiana

Products made by this Division serve with "The Invisible Crew" —which includes the precision-built instruments and equipment made by 15 Bendix Divisions—serving with our fighting crews on every front.

"STROMBERG" CARBURETORS . . . "BENDIX B-K" VACUUM POWER BRAKING . . . "BENDIX-WEISS" UNIVERSAL JOINTS . . . "BENDIX" CLEANER . . . "BENDIX" BRAKES

THE INVISIBLE CREW
Precision Equipment by Bendix
AVIATION CORPORATION

WASHINGTON

RUNAROUND

(CONTINUED FROM PAGE 25)

pulsory inspection, by an OPA-designated inspector, of every tire every 5000 miles or every 60 days, whichever occurs sooner. The price ceiling on inspections is expected to be the same as that applying to inspections under terms of the tire rationing regulations. This ceiling ranges from 75 cents per tire up. On these terms it will not be unusual for fleet operators to incur an expense of $5 per truck per 5,000-mile inspection. Since this is piled on top of a fleet's tire maintenance expense, which includes frequent inspections, the duplication is being resented and complaints are being entered. ODT is inclined to be sympathetic and may support a movement to have OPA authorize fleet shops as official tire inspection stations and designate some sort of forfeit for infraction of the regulations.

Certificates Give ODT Weapon

It is generally recognized that ODT needed some sort of "weapon" to use on violators of the letter and of the intent of the conservation orders. The "Certificate of War Necessity" provides this weapon. ODT does not intend to use the weapon ruthlessly. When its use is indicated certificates will be suspended and, in serious cases, revoked. But ODT doesn't want to suspend or revoke certificates because that would mean taking trucks off the road. ODT wants trucks to continue in operation for the duration. It is counting on the patriotic cooperation of all truck operators.

New Orders and Amendments

The 35-mile national speed limit recommended in the special rubber committee report will be incorporated in all ODT conservation orders by means of an amendment. At the same time operators can look for two more general orders. One will deal with speed limit and will bear the number 23. The other—number 24—will deal with pick-up and delivery operations and will cancel present Order No. 6.

War-time Service Too Good

A feeling is growing in ODT that something will have to be done soon to curtail the pre-war brand of service that many shippers continue to get from common carrier truckmen. ODT has knowledge that it is not uncommon for trucks to make deliveries with loads 40 and 60 per cent of capacity in order to provide shippers with the sort of service to which they have grown accustomed. It should occasion no surprise, therefore, if ODT should order service sacrificed in favor of full loads. Pre-war brand of service, it is argued, is not compatible with war-time conservation. The crackdown may come after Nov. 15 when the order can be backed up with the threat of penalty.

Cross-hauling Complaint

"Cross-hauling" is another irksome subject for which, so far, no solution has been advanced. Many a man in ODT who recognizes the value of competition in American business life sees "red" when he considers the waste of rubber occasioned by some phases of competition. The example that makes blood pressures soar and which is most often quoted is the hauling of San Francisco beer by truck to Los Angeles and the hauling of Los Angeles beer to San Francisco. Elimination of such cross-hauling involves restriction of distribution areas and that's a major economic operation. There is some feeling that what might not be done by compulsion might be accomplished by voluntary cooperation. The efforts in this respect of the petroleum industry may serve as a precedent, although in that case the changes in distribution while voluntary are influenced by circumstances which affect product availability.

Railroading and Rubber

The choice of a railroad man to be the "rubber czar" caused a commotion in the trucking industry that might compare with the bomb load dropped in a 1000-plane raid. Even the most enlightened railroad men have not been considered friendly toward highway transportation and toward truck competition in particular. William M. Jeffers, president of the Union Pacific Railroad, and now the rubber czar in WPB, does not come to his new job with a record that would entitle him to the full confidence of the trucking industry. Like most railroad men he has doubtless taken many a public crack at trucks and, as a conscientious railroad executive, done all in his power to curb his highway competitors. But if he is the smart executive that those in authority think he is, he will avoid incidents which will raise the spectre of his past. His past makes him vulnerable to attack, not only by his trucking competitors, but by Congressmen who know only too well the value of a railroad scapegoat in terms of newspaper headlines. Mr. Jeffers has a big job on his hands, and it's a most important job. May he do it so well that even the trucking industry cheers him.

Used Truck Rationing Sure

Used truck rationing, about which we speculated in this corner last month, is now a certainty. Plans for freezing the sale of used trucks are being completed and rationing regulations are being formulated by the Allocation Section of ODT. It is understood that the new truck user preference list will apply also to used trucks. Procurement rules will be less restrictive than those applying to new trucks. The effective date is still a guess but a good guess would be Nov. 15.

Tentative Pricing Schedule

A price ceiling on used trucks is under consideration by the Office of

(TURN TO PAGE 156, PLEASE)

BUY TO LAST
SAVE TO WIN

. . . . means Exide Batteries to this busy Coca Cola Plant

Part of the 60 truck fleet of the Coca Cola Bottling Company of Louisville. Battery equipment with this busy company has been Exide for over 15 years.

FOR the past 15 years, the Coca Cola Bottling Company of Louisville, Kentucky, has depended upon Exides. Their busy trucks cover 75 to 100 miles daily . . . and their batteries average 2 years of life, and 40,000 miles of service each.

Naturally, Coca Cola Bottling Company of Louisville takes good care of all its equipment, and that's doubly true today. They know the importance of buying dependable equipment, and adding to that dependability through intelligent, unceasing care. War-time truck use calls for just this spirit. Buy to Last, and Save to Win!

Join the U.S. TRUCK CONSERVATION CORPS

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

Exide
EXTRA DUTY
BATTERIES

NEWSCAST

Digest of Rubber Committee Report

The absolute necessity of maintaining essential transportation during the war is emphasized in the September 10 report of the Baruch Committee appointed by the President to study the current rubber shortage and make recommendations for relief.

The Committee warned that tires on civilian commercial and passenger cars are wearing down at a rate eight times greater than they are being replaced and said if this continues the majority of vehicles will be out of service next year and by 1944 there will be "all but complete collapse of the 27 million passenger cars in America."

In calling for conservation of existing tires and increased synthetic rubber production for essential civilian needs, the Committee found present conditions "so dangerous that unless corrective measures are taken immediately this country will face both a military and civilian collapse."

President Roosevelt announced he would act immediately to put the proposed program into effect.

To conserve existing tires, the Committee recommended:

1. "That no speed above 35 miles an hour be permitted for passenger cars and trucks. (In this way the life of tires will be prolonged by nearly 40 per cent.)

2. "That the annual average mileage per car now estimated as 6700 be held down to 5000, a reduction of 25 per cent. (This does not mean that each has a right to 5000 miles; it applies to necessary driving.)

3. "That more rubber than is now given to the public be released to fully maintain, by recapping or new tires, necessary driving.

4. "That a new rationing system of gasoline be devised, based on this 5000 miles a year to save tires.

5. "That the restrictions as to gasoline and mileage be national in their application.

6. "That compulsory periodic tire inspection be instituted.

7. "That a voluntary tire conservation program be put into effect until gasoline rationing can be established."

Until synthetic rubber is available for civilian use, the Committee proposed "that sufficient reclaimed rubber, a small amount of crude, and an increased supply of Thiokol, or other substitutes, be made available for the tire replacement and recapping program, which we urge shall go into effect at once."

Calling for complete reorganization of the Government's synthetic rubber program, the report recommended the following action:

1. "A directive by the President ordering the Rubber Reserve Company and all other Government Agencies to act in all matters relative to the rubber program as directed by the Chairman of the War Production Board.

2. "The appointment by the Chairman of the War Production Board of a Rubber Administrator, delegating to him full and complete authority in all matters related to rubber, including research, development, construction and operation of plants. The Chairman of the WPB should divest himself of all direct concern with these matters.

3. "Establishment of an adequate technical staff, properly staffed under the immediate supervision of the Rubber Administrator, funds to be provided for these purposes."

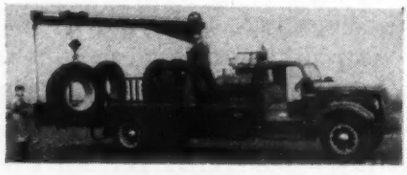
The expanded program of synthetic rubber production proposed by the Committee, totaling 1,106,000 tons, includes:

845,000 tons of Buna-S
69,000 tons of Neoprene
60,000 tons of Thiokol
132,000 tons of Butyl

with "other synthetics like Flexon being added to the program if they can be brought in during 1943" which was described as the "critical year" of the rubber shortage.

Reporting that all processes used in the current synthetic program are satisfactory, the Committee urged that rubber and rubber substitutes be obtained from all possible sources including petroleum and grain alcohol.

The Committee was composed of Bernard M. Baruch, chairman; James B. Conant, president of Harvard University, and Dr. Karl F. Compton, of the Massachusetts Institute of Technology, and a staff of experts.



A precious cargo of 3600 pounds of rubber is carried on this Mack truck, which is used to service big Mack dumpers working on the Panama Canal Third Locks Project. Making tire changeovers is its main job. Shoes for these big babies weigh over 600 lb. each

Jeffers Appointed Rubber Administrator

Donald M. Nelson announced the appointment of William M. Jeffers, president of the Union Pacific Railroad, as the new Rubber Administrator who will be in complete charge of the entire rubber program.

Mr. Jeffers will be vested with all the authority of the Chairman of the War Production Board over the rubber program in all its phases. In turn, he will issue directives to all governmental agencies concerned with rubber.

"Anyone who knows Mr. Jeffers," said WPB Chairman Donald M. Nelson, "knows also that he is an exceedingly competent executive and administrator who can do any kind of a tough job. This job is one of the toughest. I am placing Mr. Jeffers in this post with the approval of the President, and I am delegating to him all my authority. From this point on, any problem connected with rubber is a matter for Mr. Jeffers' decision and I know he will do this job."

Mr. Jeffers was born in North Platte, Neb., in 1876. His home and office are in Omaha.

ATA Convention Oct. 18 to 20

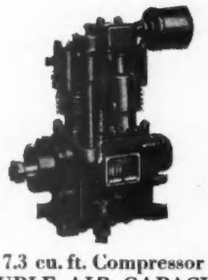
Major General Lewis B. Hershey, Director of the Selective Service System; Senator Harry S. Truman, of Missouri, and John L. Rogers of the Office of Defense Transportation will be featured speakers at the Ninth Annual Convention of the American Trucking Associations, Inc., which will be held at the new Jefferson Hotel, St. Louis, Mo., Oct. 18 to 20. This is ATA's "War Problems Convention."

Safety Congress Program

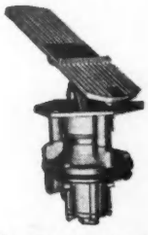
The Commercial Vehicle Section of the 31st National Safety Congress will open on Tuesday, Oct. 27, at 9:45 a. m. in the Morrison Hotel, Chicago. The opening speaker, H. H. Kelly, Chief Allocation Section, Div. of Motor Transport, Office of Defense Transportation, Washington, D. C., will discuss "Safety Through Conservation of Men and Vehicles."

Other important papers scheduled are: "Starting from Scratch in the Training of Replacement Drivers and Terminal Workers," by Morgan B. Speir, Jr., Director of Safety and Personnel, Horton Motor Lines.

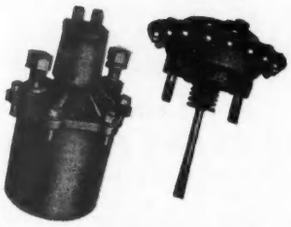
(Turn to Page 126, Please)



Big 7.3 cu. ft. Compressor for
DOUBLE AIR CAPACITY



Fully compensating
foot control valve for
PERFECT CONTROL



Cylinder or Diaphragms
for SUPER POWER

● *This crate contains an airplane. But it will never fly unless it reaches its destination. And whether it "gets there" or not often depends on the safety and good condition of a truck . . . maybe your truck.*

Every Midland Power Brake Distributor is in full support of the U. S. Truck Conservation Corps movement. They know how vital your power brake equipment is to the safety of your trucks and cargoes. Have your fleet's power brakes checked now — and periodically for the duration. The entire Midland organization stands ready to help you with service, parts and information.

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MIDLAND POWER BRAKES
(CHRISTENSEN)

Nature cuts loose on Cobbly Creek, and a sturdy, compact Mack line-truck gets men and tools to the spot to fix things . . . fast! Sketched for Mack by Peter Helck.

IT GOES ON . . . AND ON . . . AND ON!

YOU WON'T think of many names in industry that have stood for so much, so clearly, so long as has the name of Mack. From the smallest to the largest in trucks, whether it be one of the countless varieties of civilian trucks or one of the many special Macks now serving with the armed forces . . . back of *any* Mack is the intention to be the best truck of its type in the world. And back of *every* Mack is a 42-year record saying that is what Macks are! Come war, come peace, come the changing years, that basic Mack idea goes on and on!

Mack Trucks, Inc., New York, N. Y. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J. Factory branches and dealers in all principal cities for service and parts.

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TRUCKS
FOR EVERY PURPOSE
ONE TON TO FORTY-FIVE TONS

BUY U. S. WAR BONDS

IF YOU'VE GOT A MACK, YOU'RE LUCKY . . . IF YOU PLAN TO GET ONE, YOU'RE WISE!

TRUCK SPECIFICATIONS TABLE

OF STANDARD DOMESTIC MODELS

TABULATED BY

COMMERCIAL CAR JOURNAL

and brought up to date in this issue from data supplied by manufacturers

KEY TO DEFINITIONS, ABBREVIATIONS AND REFERENCES

DEFINITIONS

MAKE AND MODEL
Only Domestic Truck Models are listed.

OPTIONAL UNITS
For the express purpose of best fitting the truck to the individual job most of the models listed can be provided with optional engines, transmissions, axles, etc., and these models when so equipped are considered standard stock models.

CHASSIS LIST PRICE
The chassis list price applies to the minimum standard wheelbase with standard tires and standard equipment. All prices are F.O.B. factory. Chassis list price does not include the price of the Cab unless otherwise noted.

RECOMMENDED GROSS VEHICLE WEIGHT FOR NORMAL SERVICE
The Gross Weights published herewith are those supplied by manufacturers as their Recommended Gross Vehicle Weights for Normal Operating Conditions, and are based upon the Maximum Authorized Tire Size listed. In actual practice the manufacturer may either increase or decrease the gross vehicle weight rating when either favorable or unfavorable operating conditions are involved. Since the proper performance of a motor truck depends upon many factors, including grades, road conditions, etc., the gross weights that a manufacturer is prepared to recommend will vary with particular conditions, and the manufacturer's own standard of safety factors. Specific recommendations, therefore, should be obtained from the manufacturer's representative.

CHASSIS WEIGHT
The chassis weight listed includes the weight of the minimum standard wheelbase chassis, with cowl, with standard tires, with standard equipment, with crankcase and cooling system full, and 5 gallons of fuel in the tank. It does not include the weight of the Cab. This applies to C.O.E. as well as conventional chassis types. Exceptions are noted.

STANDARD TIRE SIZE
The standard tire size listed is that which is included in the Chassis List Price.

MAXIMUM AUTHORIZED TIRE SIZE
The tire size listed in this column is the maximum size recommended by the manufacturer of the chassis for the Gross Vehicle Weight for Normal Operating Conditions. It is furnished at extra cost, if it differs from the standard size. Dual rears are understood; exceptions noted.

MINIMUM STANDARD WHEELBASE
The minimum standard wheelbase is the so-called standard wheelbase on which the Chassis List Price is based.

MAXIMUM STANDARD WHEELBASE
The maximum standard wheelbase is the extreme end of the standard range of wheelbases offered by the chassis maker.

MAXIMUM BRAKE HP.
Maximum Brake Horsepower at Given R.P.M. is actual dynamometer reading without accessories.

GEAR RATIO RANGE
Gear Ratio Range in High—Ratios within the range given are available at no extra cost. Exceptions are noted.

TRACTORS
Unless given the designation (N)—meaning not available as a tractor—all standard models may be assumed to be available as tractors. Exclusively Tractor models are designated (T).

KEY TO REFERENCES

c.f.—Cab Forward design.

c.o.e.—Cab-Over-Engine design.

(C)—Converted Ford or Chevrolet model, identifiable by engine make listed.

(D)—Diesel-engine equipped.

(T)—Designed for tractor use only.

(3) Available—All models available in either conventional or c.o.e. design, oversize power plants, oil engines and six-wheel construction.

(5) Condor—These models available with double drop bus frames.

(6) Federal—245 cu. in. engine and 11" clutch available on Models 16 and 76, 263 cu. in. engine and 11" clutch available on Models 16, 17, 76 and 77. 428 cu. in. engine available on Models 45, 55, 92 and 94. 501 cu. in. and 517 cu. in. engines available on Models 55 and 94. Oversize or two-speed rear axles available on Models 16, 17, 18, 20, 25, 29, 35, 45, 76, 77, 80, 85, 89, 90 and 92. Double reduction rear axles available on Models 20, 25, 29, 35, 45, 80, 85, 89, 90 and 92. Two- or three-speed auxiliary transmissions available on all models. Air brakes available on Models 25, 29, 35, 45, 55, 85, 89, 90, 92 and 94. Diesel engines available in all models except c.o.e. All above at extra cost.

(9) Gramm—Models 31, 41, 46, 56, 71, 76, 86 and 96 both gasoline and diesel available with double drop bus frames of various wheelbases. 221 cu. in. engine available on Model 21. 263 cu. in. engine available on Models 31 and 41. 282 cu. in. engine and 5 speed transmission available on Models 41, 46, and 56. 320 cu. in. engine and 5 speed transmission available on Models 41, 46, 56, and 71. 404 cu. in. engine and larger 5 speed transmission available on Model 86. Oversize two speed and double reduction axles available on Models 21, 31, 41, 46, 56, 71, 76 and 86 both gasoline and diesel. All other equipment furnished at extra cost.

(10) Corbitt—Wheelbases optional—any wheelbase desired furnished at chassis price listed.

(11) International Harvester—Specifications shown represent only the basic standard chassis units and standard chassis ratings in keeping with definitions established by Commercial Car Journal. Optional units not shown such as engines, clutches, transmissions, axles or axle ratios, brakes, wheels and tires, frames or frame reinforcements, optional wheelbases or any other units which make up part of the truck chassis and which International will furnish and approve from the factory as optional equipment can or will change either the ratings, chassis weight shown or performance of the truck as indicated by this list.
Also the company reserves the privileges of assigning special gross vehicle ratings for any chassis providing in the opinion of our engineering department, the type of service justifies the new rating without decreasing the safety factor designed into the truck.
(a)—Available with Eaton Two-Speed Axle designated KS Models.
(b)—Available with IHC double reduction axle and designated KR Model.
(c)—Comparable chassis available with Cummins Diesel engine and designated KD Model.

(16) Sterling—Diesel powered unit of comparable capacity available in addition to gasoline models.

(18) Willys—Advertised list price less Federal tax. Cab Pick-up $575; Panel Delivery $849. Prices, complete with shock absorbers and front and rear bumpers. Standard tires 5.50/16—4 ply; Panel Delivery 6.00/16—4 ply; 6.00/168—6 ply—optional.

KEY TO ABBREVIATIONS

MAKES—ALL

B—Bendix.
BL—Brown-Lipe.
Bu or Bud—Buda.
Cat—Caterpillar.
Cl or Cla—Clark.
C or Chev—Chevrolet.
Con—Continental.
Col—Columbia.
Cum—Cummins-Diesel.
Det—Detroit Gear.
Eat—Eaton.
Fu—Fuller.
Her—Hercules.
L—Lockheed.
LH—Lockheed front, Wagner "hi-Torq" rear.
LO—Lockheed front, Own rear.
LW—Lockheed front, Wisconsin rear
Lyc—Lycoming.
N.P.—New Process.
O or Ow—Own.
Op or Opt—Optional.
Sal—Salisbury.
Shu—Shuler.
T or Tim—Timken.
TO—Timken front, Own rear.
TW—Timken-Wisconsin.
TWH—Timken Wisconsin Herrington.
WG—Warner Gear.
WH—Wisconsin Herrington.
W-Hes—Waukesha Hesselman.
Wau—Waukesha.
W or Wis—Wisconsin.
WO—Wagner front, Own rear.
Ws—Westinghouse.

BRAKES—SERVICE

Location
2—Two Wheels, rear only.
4—Four Wheels, front and rear.
4r—Four Wheels, rear only.
6—Six Wheels, front and rear.

Type
I—Internal.
X—External

Operation
A—Air.
D—Hydraulic and mechanical.
H—Hydraulic.
M—Mechanical.
V—Vacuum.

BRAKES—HAND

Location
C—Center of double propeller shaft.
2—Rear wheels.
2/4—Two-wheel brakes effective on all four wheels through driveshaft.
4—Four wheels.
6—Six wheels.
J—Jackshaft.
T—Transmission.
F—Driveshaft.
P—Propeller shaft.

Type
D—Tru-Stop disk.
I—Internal.
X—External.
PD—Two drums on rear of power divider.

BRAKE DRUMS

Material
a—Cast alloy iron.
A—American Car Foundry.
c—Cast iron.
C—Centrifuse.
Cl—Copper iron.
Co—Composite
D—Dayton.
E—Ermalite.
F—Furnace iron.
G—Gunite.
N—Nickel iron.
p—Pressed steel.
P—Pressed steel.
s—Cast steel.
(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME

Type
I—"I" Beam.
C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center
Tf—Tapered front.
X—x-Braced.
S—Deep section channel frame with oak insert.
A—Straight section sidemembers, lined with oak inserts.
Y—Straight section channel sidemembers, lined with full length channel reinforcements, and oak inserts.

GOVERNOR STANDARD

Y—Yes.
N—No.

REAR AXLE

Final Drive and Type
B—Bevel.
C—Chain.
D—Dead.
F—Full-floating.
Hy—Hypoid.
d—Dual range axle.
2—Double Reduction.
S—Spiral bevel.
W—Worm.
½—Semi-floating.
¾—Three-quarter floating.

Gear Ratios
(*)Ratios other than standard at extra cost.
(**) Only one ratio.

Drive and Torque
A—Radius Rods and Torque Arm.
H—Hotchkiss (springs).
R—Radius Rods.
T—Torque Arm.
U—Torque Tube.

WHEELS DRIVEN

2F—Forward unit of Rear Axle Group.
2R—Rear Unit of Rear Axle Group.
4R—Forward and rear units of Rear Axle Group.
4F—Front Axle and Forward unit of Rear Axle Group.
4FR—Front Axle and Rear unit of Rear Axle Group.
6—All wheels.

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Sp'ds	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operat'n	BRAKES SERVICE: Lining Area	BRAKES SERVICE: Drum Area	BRAKES SERVICE: Drum Material	BRAKES: Hand Location Type	C-A Dimension (Min. Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
1	Avail- (3) C-100	1370	Opt	Opt	11500	4000	6.50/20D	7.50/20	Wau BL	6-3½x4½	245	5.7	165	73-3000	7-2⅝x10¼	N	WG T9	4	Tim 53514H	SF	H	5.4-6.6	Tim 30000H	L4IH	266	388	a	TX	60	10x3x¼	T
2	able C-200	1520	Opt	Opt	12600	4200	7.00/20D	7.50/20	Wau BL	6-3½x4½	245	5.7	165	73-3000	7-2⅝x10¼	N	WG T9	4	Tim 53303H	SF	H	5.14-6.6	Tim 30000H	L4IH	304	477	a	TX	60	10x3x¼	T
3	C-250	1600	Opt	Opt	14000	4300	7.00/20D	8.25/20	Wau BL	6-3½x4½	245	5.7	165	73-3000	7-2⅝x10¼	N	WG T9	4	Tim 53308H	SF	H	5.14-6.6	Tim 31000H	L4IH	328	603	a	TX	60	10x3x¼	T
4	C-300	1795	Opt	Opt	16000	4800	7.50/20D	8.25/20	Wau BM	6-3¾x4½	263	5.7	178	78-3100	7-2⅝x10¼	N	WG T9	4	Tim 54411H	SF	H	5.80-6.8	Tim 31000H	L4IH	328	603	a	TX	60	10x3x¼	T
5	C-350	1905	Opt	Opt	17000	4900	7.50/20D	9.00/20	Wau BK	6-3¾x4½	282	5.7	188	85-3200	7-2⅝x10¼	N	WG T9A	4	Tim 54411H	SF	H	5.80-6.8	Tim 32502H	L4IH	328	603	a	TX	60	10x3x¼	T
6	C-400	2135	Opt	Opt	20000	5400	8.25/20D	9.00/20	Wau BK	6-3¾x4½	282	5.7	188	85-3200	7-2⅝x10¼	N	WG T9A	5	Tim 56410H	SF	R	6.16-7.4	Tim 32502H	L4IH	328	603	a	TX	60	12x3x¾	T
7	C-400L	2240	Opt	Opt	20000	5500	8.25/20D	9.00/20	Wau BZ	6-4x4½	320	5.7	210	86-3200	7-2⅝x10¼	N	Fu 5A330	4	Tim 56410H	SF	R	6.16-7.4	Tim 32502	L4IH	328	603	a	TX	60	12x3x¼	T
8	C-500	2440	Opt	Opt	22000	6100	9.00/20D	9.00/20	Wau BZ	6-4x4½	320	5.7	222	95-2800	7-2⅝x10¼	Y	Fu 5A330	5	Tim 58300H	SF	R	5.20-7.8	Tim 33000H	L4IH	370	684	a	TX	60	12x3x¼	T
9	C-550	2880	Opt	Opt	23000	6800	9.00/20D	10.00/20	Wau MKR	6-4½x4½	381	5.3	270	99-2400	7-2⅝x12½	Y	Fu 5-A-430	5	Tim 58300H	SF	R	5.20-7.8	Tim 35000H	L4IH	370	684	a	TX	60	12x3x¼	T
10	C-600	3320	Opt	Opt	26500	7400	10.00/20D	11.00/20	Wau MZR	6-4½x4½	404	5.3	290	106-2400	7-2⅝x12½	Y	Fu 5-A-430	5	Tim 65743H	WF	R	6.8-10.25	Tim 35000H	L4IH	459	793	a	TD	60	12x3x¼	T
11	C-650	3800	Opt	Opt	26500	8000	10.00/20D	11.00/20	Wau SRLR	6-4⅝x5½	462	5.5	330	112-2300	7-3x13¼	Y	Fu 5-A-620	5	Tim 65743H	WF	R	6.8-10.25	Tim 35000H	L4IH	459	793	a	TD	60	12x3x¼	T
12	C-700	4175	Opt	Opt	35000	8700	10.00/20D	12.00/20	Wau SRKR	6-4⅝x5½	517	5.5	365	126-2300	7-3x13¼	Y	Fu 5-A-620	5	Tim 66728H	WF	R	6.8-10.25	Tim 26452H	L4IH	544	867	a	TD	60	12x3x¼	T
13	Bantam	349	75	75	1700	850	4.00/158	5.00/15	Own	4-2.2x3½	50	7.4	34.1	22-3800	3-2¼x1.005	N	WG T48E	3	Spi 10	S	H	**-5.25	Spi 10	O4IM	76	104	P	4I	114	8x2x.109	....
14	Brockway 78	895	138	164	13000	3965	6.00/20D	32x6	Con 24B	6-3½x4½	210	6.0	154	71-3100	4-2⅝x6	N	WG T9	4	Tim 53521H	SF	H	5.66-6.6	Tim 30000H	L4IH	255	402	a	TX	65	8x3x¼	T
15	83	1195	138	176	14000	4100	6.50/20D	7.50/20	Con 25B	6-3½x4½	244	6.2	180	80.5-3100	4-2⅝x6	N	WG T9	4	Tim 53521H	SF	H	5.66-6.6	Tim 30000H	L4IHV	255	402	a	TX	65	8x3x¼	T
16	88	1290	150	176	15000	4500	6.50/20D	7.50/20	Con 25B	6-3½x4½	244	6.2	180	80.5-3100	4-2⅝x6	N	WG T9	4	Tim 53307H	SF	H	6.2 -6.8	Tim 30000H	L4IHV	298	477	a	TX	71	8x3x¼	T
17	92	1560	150	188	16000	4700	7.00/20D	8.25/20	Con 25B	6-3½x4½	244	6.2	180	80.5-3100	4-2⅝x6	N	WG T9	4	Tim 54411H	SF	H	5.83-6.8	Tim 31000H	L4IHV	329	580	a	CD	83	8x3x¼	T
18	94	1850	156	188	18500	5050	7.50/20D	8.25/20	Con 25B	6-3½x4½	244	6.2	180	80.5-3100	4-2⅝x6	N	BL B341	4	Tim 56411H	SF	H	6.16-7.4	Tim 31000H	L4IHV	370	660	a	CD	83	8x3x¼	T
19	112	1710	150	188	18000	5150	7.00/20D	8.25/20	Con 38B	6-3¾x4½	290	6.0	217	92-2800	7-2⅝x12	N	BL B341	4	Tim 54411H	SF	H	5.83-6.8	Tim 31000H	L4IHV	329	580	a	CD	77	8x3x¼	T
20	128	1950	156	188	23000	5550	7.50/20D	8.25/20	Con 38B	6-3¾x4½	290	6.0	217	92-2800	7-2⅝x12	N	BL B341	4	Tim 56411H	SF	R	5.71-7.4	Tim 31000H	L4IHV	370	660	a	CD	83	8x3x¼	T
21	130-P8	2525	164	206	20000	6250	34x7D	9.00/20	Con 29-B	6-3½x4½	288	5.4	192	78-2650	7-2¾x13	N	Fu 5-A-43	5	Tim 56411H	SF	R	6.16-7.4	Tim 32505H	L4IHV	370	660	a	CD	91	8x3x¼	B
22	146	2690	126	206	20000	6060	8.25/20D	9.00/20	Con 40B	6-4x4½	330	6.0	245	104-2800	7-2⅝x12	Y	Fu 5A330	5	Tim 56411H	SF	R	5.76-7.4	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
23	(T) 147	2855	132	164	.....	6000	8.25/20D	9.00/20	Con 40B	6-4x4½	330	6.0	245	104-2800	7-2⅝x12	Y	Fu 5A33	5	EatA17-17000	SFd	H	Dual Rge.	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
24	152	2870	126	206	22000	6350	8.25/20D	9.00/20	Con 41B	6-4½x4½	371	5.9	280	100-2500	7-2¾x13½	Y	Fu 5A43	5	Tim 56411H	SF	R	5.71-6.83	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
25	(T) 153	3025	132	164	.....	6400	8.25/20D	9.00/20	Con 41B	6-4½x4½	371	5.9	280	100-2500	7-2¾x13½	Y	Fu 5A43	5	Tim 58300H	SF	H	6.14-7.8	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
26	(T) 154	3050	132	164	.....	6300	8.25/20D	9.00/20	Con 41B	6-4½x4½	371	5.9	280	100-2500	7-2¾x13½	Y	Fu 5A43	5	EatA17-17000	SFd	H	Dual Rge.	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
27	(T) 156	3700	132	164	.....	6950	9.00/20D	10.00/20	Con 42B	6-4¼x4½	405	5.7	305	112-2500	7-2¾x13½	Y	Fu 5A43	5	Tim 58300H	SF	R	6.14-7.8	Tim 32505H	L4IHV	459	768	a	CD	53	8½x3x	T
28	162	3450	121	219	25000	7250	9.00/20D	10.00/20	Con 41B	6-4½x4½	371	5.9	280	100-2500	7-2¾x13½	Y	Fu 5A43	5	Tim 56411H	SF	R	6.16-7.4	Tim 32505H	L4IHV	370	660	a	CD	51	8½x3x	T
29	166	4070	121	219	28000	7800	10.00/20D	11.00/20	Con 42B	6-4¼x4½	405	5.7	305	112-2500	7-2¾x13½	Y	Fu 5A43	5	Wis 1337H	2F	R	5.63-8.59	Shu 15785B	L4IHV	459	772	a	CD	51	8¼x3x	T
30	170X	3640	153	219	25000	7960	9.00/20D	10.00/22	Con 33B	6-4½x4¾	381	4.7	276	106-2600	7-2¾x13	Y	Fu 5-A-62	5	Tim 72300H	2F	R	5.78-7.35	Shu 15785B	L4IHV	370	663	a	CD	83	8½x3x	T
31	175X	4290	153	219	30000	8550	9.00/20D	11.00/22	Con 34B	6-4¾x4¾	427	5.4	322	133-2600	7-2¾x13	Y	Fu 5-A-62	5	Wis 1337BH	2F	R	5.63-8.59	Shu 15785B	L4IHV	459	772	a	CD	83	8¼x3x	T
32	195X	4230	153	219	28000	8650	10.00/20D	11.00/22	Con 33B	6-4½x4¾	381	4.7	276	106-2600	7-2¾x13	Y	Fu 5-A-62	5	Wis 1337BH	2F	R	5.63-8.59	Shu 15785B	L4IHV	459	772	a	CD	83	8¼x3x	T
33	220X	4930	153	219	34000	9050	11.00/20D	12.00/24	Con 34B	6-4¾x4¾	427	5.4	322	133-2600	7-2¾x13	Y	Fu 5-A-62	5	Wis 1757H	2F	R	6.06-8.82	Shu 15795B	L4IHV	536	899	a	CD	83	8¼x3x	T
34	240X	5130	153	219	30000	8590	10.00/20D	11.00/24	Con 35B	6-4½x5¼	501	5.4	370	144-2400	7-2¾x13	Y	Fu 5-A-62	5	Wis 1337BH	2F	R	5.63-7.52	Shu 15785B	L4IHV	459	772	a	CD	83	8¼x3x	T
35	260X	6030	195	219	34000	972(	11.00/22D	12.00/24	Con 35B	6-4½x5¼	501	5.4	370	144-2400	7-2¾x13	Y	Fu MHU	4	Wis 1757H	2F	R	6.06-8.82	Shu 15795B	L4IHV	536	899	a	CD	125	8¼x3x	T
36	260S	6380	195	219	36000	10000	11.00/24D	12.00/24	Con 35B	6-4½x5¼	501	5.4	370	144-2400	7-2¾x13	Y	Fu MHU	4	Wis 1757H	2F	R	6.06-8.82	Shu 15795B	Lw4IDV	600	899	a	CD	125	8¼x3x	B
37	Chevrolet BK	528	115	115	4600	°2235	6.00/168	15/68	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	3	Own	Hy	U	** 4.11	Own	O4IH	161	242	a	2I	38¼	5¼x2¼x	C
38	BJ	▲1127	115	115	5000	°3665	6.00/168	15/68	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	3	Own	Hy	U	** 4.55	Own	O4IH	161	242	a	2I	....	5¼x2¼x	C
39	BL	602	125	125	5200	°2400	15/68	15/68	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	3	Own	Hy	H	** 4.55	Own	O4IH	161	242	a	2I	48½	5¼x2¼x	C
40	BN	▲897	134	134	5800	°3770	7.00/178	7.50/17-8S	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	Hy	H	** 4.55	Own	O4IH	195	297	a	2I	....	7x2¾x	C
41	MR	668	134	134	7700	°2970	6.00/20S†	7.50/20-8S	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	57¾	7x2¾x	C
42	MR	694	134	134	7700	°2975	6.00/20S†	7.50/20-8S	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	57¾	7x2¾x	C
43	MR	691	134	134	9500	°3110	6.00/20D	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	57¾	7x2¾x	C
44	MR	717	134	134	9500	°3115	6.00/20D	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	57¾	7x2¾x	C
45	•MR	834	134	134	•13500	°3388	6.50/20D‡	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	57¾	7x2¾x	C
46	•MR	860	134	134	•13500	°3385	6.50/20D‡	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	57¾	7x2¾x	C
47	MS	694	160	160	7700	°3225	6.00/20S†	7.50/20-8S	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	83¼	7x2¾x	P
48	MS	720	160	160	7700	°3230	6.00/20S†	7.50/20-8S	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	83¼	7x2¾x	P
49	MS	717	160	160	9500	°3365	6.00/20D	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x	P
50	MS	743	160	160	9500	°3370	6.00/20D	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x	P
51	•MS	860	160	160	•13500	°3635	6.50/20D‡	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x	P
52	•MS	886	160	160	•13500	°3640	6.50/20D‡	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x	P
53	(c.o.e.) MU	788	109	109	7700	°3340	6.00/20S†	7.50/20-8S	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	62½	7x2¾x	C
54	(c.o.e.) MU	814	109	109	7700	°3345	6.00/20S†	7.50/20-8S	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	62½	7x2¾x	C
55	(c.o.e.) MU	811	109	109	9500	°3480	6.00/20D	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	62½	7x2¾x	C
56	(c.o.e.) MU	837	109	109	9500	°3485	6.00/20D	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	62½	7x2¾x	C
57	•(c.o.e.) MU	954	109	109	•13500	°3750	6.50/20D‡	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	62½	7x2¾x	C
58	•(c.o.e.) MU	980	109	109	•13500	°3755	6.50/20D‡	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	62½	7x2¾x	C
59	(c.o.e.) MV	813	132	132	7700	°3415	6.00/20S†	7.50/20-8S	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	86	7x2¾x	C
60	(c.o.e.) MV	839	132	132	7700	°3420	6.00/20S†	7.50/20-8S	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	86	7x2¾x	C
61	(c.o.e.) MV	836	132	132	9500	°3555	6.00/20D	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	86	7x2¾x	C
62	(c.o.e.) MV	862	132	132	9500	°3560	6.00/20D	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	86	7x2¾x	C
63	•(c.o.e.) MV	979	132	132	•13500	°3825	6.50/20D‡	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	86	7x2¾x	C
64	•(c.o.e.) MV	1005	132	132	•13500	°3830	6.50/20D‡	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	86	7x2¾x	C
65	(c.o.e.) MW	840	158	158	7700	°3645	6.00/20S†	7.50/20-8S	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	111½	7x2¾x	P
66	(c.o.e.) MW	866	158	158	7700	°3650	6.00/20S†	7.50/20-8S	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	5.43	Own	O4IH	329	478	a	2I	111½	7x2¾x	P
67	(c.o.e.) MW	863	158	158	9500	°3785	6.00/20D	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	111½	7x2¾x	P
68	(c.o.e.) MW	889	158	158	9500	°3790	6.00/20D	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	N	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	111½	7x2¾x	P
69	•(c.o.e.) MW	1006	158	158	•13500	°4055	6.50/20D‡	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	111½	7x2¾x	P
70	•(c.o.e.) MW	1032	158	158	•13500	°4060	6.50/20D‡	7.50/20-8	Own	6-3¾x3½	235	6.6	192	93-3100	4-2¾x5	Y	Own	4	Own	HyF	H	** 6.17	Own	O4IH	329	478	a	2I	111½	7x2¾x	P

† Rear 7.00/20 8-ply. ‡ Rear 7.50/20 8-ply. • 14,000 lb. when truck is equipped with two-speed rear axle and 8.25/20 10 ply tires. ▲ Includes special panel body. ♦ Denotes new models or change in specifications.
* Governor set not to exceed 45 m.p.h. ° These are shipping weights and do not include weight of gasoline or water.

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Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Sp'ds	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operat'n	BRAKES SERVICE: Lining Area	BRAKES SERVICE: Drum Area	BRAKES SERVICE: Drum Material	BRAKES: Hand Location Type	C-A Dimension (Min. Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
1	Federal (●) 8	595	102	128	7000	2500	6.00/16S	7.50/17S	Her QXB3F	6-3¼x4½	205	5.9	144	66-3500	7-2½x10	N	WG-T9	4	Tim 51521H	SF	H	4.11-4.86	Tim 29500H	L4IH	210	308	a	TX	34½	6x2¼x	T
2	(6) 16	745	135	250	13000	3960	6.00/20S	7.50/20	Her JXFF	6-3¾x4¼	232	6.1	164	75-3000	7-2½x10	N	WG T9	4	Tim 53547H	SF	H	5.14-6.66	Tim 30000H	L4IH	299	478	a	TX	56¾	8x2½x	T
3	(6) 17	870	135	250	14000	4250	6.00/20†S	8.25/20	Her JXGF	6-3½x4¼	245	5.7	174	79-3000	7-2½x10	Y	WG T9	4	Tim 53308H	SF	H	5.14-6.66	Tim 30000H	L4IH	299	478	a	TX	56¾	8x2½x	T
4	(6) 18	1045	135	250	15000	4350	6.00/20D	8.25/20	Her JXBF	6-3¾x4¼	263	6.1	187	82-3000	7-2½x10	Y	WG T9	4	Tim 53308H	SF	H	5.14-6.66	Tim 30003H	L4IHV	302	528	a	TX	56¾	8x2½x	T
5	(6) 20	1245	135	250	17500	4850	6.50/20D	9.00/20	Her JXBF	6-3¾x4¼	263	6.1	187	82-3000	7-2½x10	Y	WG T9	4	Tim 54411H	SF	H	5.83-6.80	Tim 31000H	L4IHV	330	578	a	TX	56¾	8x2½x	T
6	(6) 25	1545	135	250	19000	5200	7.00/20D	9.00/20	Her JXCF	6-3¾x4¼	282	5.9	208	85-2900	7-2½x10	Y	Cla 185F	4	Tim 55411H	SF	H	5.71-7.40	Tim 31000H	L4IHV	330	578	a	TX	56¾	8x2½x	T
7	(6) 29	1960	135	250	20000	5900	7.50/20D	10.00/20	Her JXDF	6-4x4¼	320	5.9	244	95-2800	7-2½x10	Y	Cla 205V	5	Tim 56411H	SF	H	5.71-7.40	Tim 32514H	L4IHV	415	735	a	TX	56¾	8x2½x	T
8	(6) 35	2495	140	255	22500	6700	8.25/20D	10.00/20	Her WXC3	6-4½x4½	383	6.1	285	114-2800	7-2⅝x13¼	Y	Cla 205V	5	Tim 56411H	SF	H	5.71-7.40	Tim 32515H	L4IHV	415	735	a	TX	57	10½x3x	T
9	(6) 45	3145	140	255	24000	7300	9.00/20D	11.00/24	HerWXLC3	6-4½x4¾	404	6.3	307	125-2800	7-2⅝x13¾	Y	Cla 270V	5	Tim 58301H	SF	H	5.57-7.80	Tim 33006H	L4IHV	504	844	a	TX	57	10½x3x	T
10	(6) 55	3695	140	255	28000	8000	9.00/20D	11.00/24	HerWXLC3	6-4½x4¾	404	6.3	307	125-2800	7-2⅝x13¾	Y	Cla 270V	5	Tim 75743H	2F	R	7.00-9.50	Tim 35011H	L4IHV	504	844	a	PD	57	10½x3x	T
11	62	5945	141	211	35000	10400	11.00/20D	12.00/24	Con 22RF	6-4½x5½	501	5.2	400	150-2300	7-2¾x14½	Y	Cla 326VO	5	Tim 76810W	2F	R	6.07-10.42	Tim36000TW	Ws4IA	620	921	a	TD	57	10x3½x	TF
12	(6) ....(c.o.e.) 76	855	104	215	13000	4000	6.00/20S	7.50/20	Her JXFF	6-3¾x4¼	232	6.1	164	75-3000	7-2½x10	N	WG T9	4	Tim 53547H	SF	H	5.14-6.66	Tim 31100H	L4IH	299	478	a	TX	60	8x2½x	T
13	(6) ....(c.o.e.) 77	980	104	215	14000	4300	6.00/20†S	8.25/20	Her JXGF	6-3½x4¼	245	5.7	174	79-3000	7-2½x10	Y	WG T9	4	Tim 53308H	SF	H	5.14-6.66	Tim 31100H	L4IH	299	478	a	TX	60	8x2½x	T
14	(6) ....(c.o.e.) 80	1355	104	215	17500	4900	6.50/20D	9.00/20	Her JXBF	6-3¾x4¼	263	6.1	187	82-3000	7-2½x10	Y	WG T9	4	Tim 54411H	SF	H	5.83-6.80	Tim 31102H	L4IHV	330	578	a	TX	60	8x2½x	T
15	(6) ....(c.o.e.) 85	1665	104	215	19000	5250	7.00/20D	9.00/20	Her JXCF	6-3¾x4¼	282	5.9	208	85-2900	7-2½x10	Y	Cla 185F	4	Tim 55411H	SF	H	5.71-7.40	Tim 32515H	L4IHV	374	654	a	TX	60	8x2½x	T
16	(6) ....(c.o.e.) 89	2055	104	215	20000	5950	7.50/20D	10.00/20	Her JXDF	6-4x4¼	320	5.9	244	95-2800	7-2½x10	Y	Cla 205V	5	Tim 56411H	SF	H	5.71-7.40	Tim 32515H	L4IHV	415	735	a	TX	60	8x2½x	T
17	(6) ....(c.o.e.) 90	2695	116	173	22500	6600	8.25/20D	10.00/20	Her WXC3	6-4½x4½	383	6.1	285	114-2800	7-2⅝x13¼	Y	Cla 205V	5	Tim 56411H	SF	H	5.71-7.40	Tim 35011H	L4IHV	415	735	a	TX	72	10x3½x	T
18	(6) ....(c.o.e.) 92	3320	116	173	24000	7200	9.00/20D	11.00/24	HerWXLC3	6-4½x4¾	404	6.3	307	125-2800	7-2⅝x13¾	Y	Cla 270V	5	Tim 58301H	SF	H	5.57-7.80	Tim 35011H	L4IHV	504	844	a	TX	72	10x3½x	T
19	(6) ....(c.o.e.) 94	3845	116	173	28000	7900	9.00/20D	11.00/24	HerWXLC3	6-4½x4¾	404	6.3	307	125-2800	7-2⅝x13¾	Y	Cla 270V	5	Tim 75743H	2F	R	7.00-9.50	Tim 35011H	L4IHV	504	844	a	PD	72	10x3½x	T
20	Ford Reg. 21T-81		134	134	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	221	5.9	156	90-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	60.06	7x2.75x.21	CTf
21	Reg. 2GT-81		134	134	.....	.....	6.00/20†S	8.25/20-10	Own	6-3.3x4.4	226	6.7	180	90-3300	4-2.5x5.77	N	Own 1GT	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	60.06	7x2.75x.21	CTf
22	Reg. 29T-81		134	134	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	239	6.4	176	100-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	60.06	7x2.75x.21	CTf
23	Reg. 218T-81		158	158	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	221	5.9	156	90-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	84.06	7x2.75x.21	CTf
24	Reg. 2G8T-81		158	158	.....	.....	6.00/20†S	8.25/20-10	Own	6-3.3x4.4	226	6.7	180	90-3300	4-2.5x5.77	N	Own 1GT	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	84.06	7x2.75x.21	CTf
25	Reg. 298T-81		158	158	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	239	6.4	176	100-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	84.06	7x2.75x.21	CTf
26	(c.o.e.) 211W-81		101	101	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	221	5.9	156	90-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	59.60	7x2.75x.21	CTf
27	(c.o.e.) 291W-81		101	101	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	239	6.4	176	100-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	59.60	7x2.75x.21	CTf
28	(c.o.e.) 21W-81		134	134	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	221	5.9	156	90-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	92.93	7x2.75x.21	CTf
29	(c.o.e.) 29W-81		134	134	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	239	6.4	176	100-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	92.93	7x2.75x.21	CTf
30	(c.o.e.) 218W-81		158	158	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	221	5.9	156	90-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	117.0	7x2.75x.21	CTf
31	(c.o.e.) 298W-81		158	158	.....	.....	6.00/20†S	8.25/20-10	Own	8-3⅛x3¾	239	6.4	176	100-3800	3-2.25x5.65	N	Own O1T	4	Own	FS	H	5.14-6.67	Own	O4IH	303	506	A	TX	117.0	7x2.75x.21	CTf
32	1 Ton 21Y-81		122	122	.....	.....	6.00/17‡S	7.50/17	Own	8-3⅛x3¾	221	6.2	156	90-3800	3-2.25x5.65	N	Ow 11Y-21Y§	3	Own	FS	H	4.86-	Own	O4IH	187	308	A	2I	48.06	6x2.25x.19	CTf
33	1 Ton 2GY-81		122	122	.....	.....	6.00/17‡S	7.50/17	Own	6-3.3x4.4	226	6.7	180	90-3300	4-2.5x5.77	N	Ow 1GY-2GY§	3	Own	FS	H	4.86-	Own	O4IH	187	308	A	2I	48.06	6x2.25x.19	CTf
34	1 Ton 2NY-81		122	122	.....	.....	6.00/17‡S	7.50/17	Own	4-3⅛x3¾	120	6.0	84	40-3200	3-2.25x4.86	N	Ow 0NY	4	Own	FS	H	-6.67	Own	O4IH	187	308	A	2I	48.06	6x2.25x.19	CTf
35	¾ Ton 21D-81		122	122	.....	.....	6.50/16‡S	7.00/16	Own	8-3⅛x3¾	221	6.2	156	90-3800	3-2.25x5.65	N	Ow 11Y-21Y§	3	Own	FS	H	4.86-	Own	O4IH	163	264	A	2I	48.06	6x2.25x.19	CTf
36	¾ Ton 2GD-81		122	122	.....	.....	6.50/16‡S	7.00/16	Own	6-3.3x4.4	226	6.7	180	90-3300	4-2.5x5.77	N	Ow 1GY-2GY§	3	Own	FS	H	4.86-	Own	O4IH	163	264	A	2I	48.06	6x2.25x.19	CTf
37	¾ Ton 2ND-81		122	122	.....	.....	6.50/16‡S	7.00/16	Own	4-3⅛x3¾	120	6.0	84	40-3200	3-2.25x4.86	N	Ow 0NY	4	Own	FS	H	-6.67	Own	O4IH	163	264	A	2I	48.06	6x2.25x.19	CTf
38	Com. Car 21C-81		114	114	.....	.....	6.00/16S	6.50/16	Own	8-3⅛x3¾	221	6.2	156	90-3800	3-2.25x5.65	N	Ow 2C1A-O1A§	3	Own	S¾	H	3.78-4.11	Own	O4IH	163	264	A	2I	40.06	5.92x2.25x.15	CTf
39	Com. Car 2GC-81		114	114	.....	.....	6.00/16S	6.50/16	Own	6-3.3x4.4	226	6.7	180	90-3300	4-2.5x5.77	N	Ow 2GC8§	3	Own	S¾	H	3.78-4.11	Own	O4IH	163	264	A	2I	40.06	5.92x2.25x.15	CTf
40	Com. Car 2NG-81		114	114	.....	.....	6.00/16S	6.50/16	Own	4-3⅛x3¾	120	6.0	84	40-3200	3-2.25x4.86	N	Ow2NCA-2NC B§	3	Own	S¾	H	4.55-	Own	O4IH	163	264	A	2I	40.06	5.92x2.25x.15	CTf
41	Gramm 11A	730	131	155	6500	2850	7.00/16S	7.50/16S	Her QXB3G	6-3¼x4½	205	5.8	144	66-3500	7-2½x10	N	WG T8§	3	Spi 51-1	SF	H	**-5.10	Spi 50-1	L4IH	218	328	a	TX	60¼	7x2¼x	T
42	(9) 21A	785	131	155	10000	3000	6.00/20S	32x6-8p	Her QXB3G	6-3¼x4½	205	5.8	144	66-3500	7-2½x10	N	WG T9	4	Cla R650	SF	H	4.62-6.17	Cla F182	L4IH	212	352	a	TX	60½	7x2¼x	T
43	(9) 31A	870	131	227	12000	3300	6.00/20S	32x6-8p	Her QXC3G	6-3¼x4½	221	5.9	154	67-3000	7-2½x10	N	Cla R750	SF	H	5.10-6.83	Cla F266	L4IH	233	392	a	TX	60½	7½x2¾x¼	T
44	(9) 41A	930	131	227	14000	3750	6.00/20S	8.25/20	Her QXC3G	6-3¼x4½	221	5.9	154	67-3000	7-2½x10	N	WG T9	4	Tim 53300	SF	H	4.57-6.60	Tim 30000H	L4IH	252	402	a	TX	60½	7½x2¾x¼	T
45	(9) 46A	1150	131	227	14000	3900	6.00/20S	8.25/20	Her JXBG	6-3½x4¼	263	6.1	187	82-3000	7-2½x10	N	WG T9A	4	Tim 53300	SF	H	4.57-6.20	Tim 30000H	L4IH	252	402	a	TX	60½	7½x2¾x¼	T
46	(9) 56A	1360	131	227	15000	4700	6.50/20D	8.25/20	Her JXBG	6-3½x4¼	263	6.1	187	82-3000	7-2½x10	N	WG T9A	4	Tim 54411	SF	H	4.12-6.80	Tim 31000H	L4IHV	334	578	a	TX	60½	10x2¾x	P
47	(9) 71A	1675	131	227	17000	5200	7.00/20D	9.00/20	Her JXCG	6-3¾x4¼	282	5.9	208	85-2900	7-2½x10	N	Cla 200V	5	Tim 55411	SF	H	5.71-7.40	Tim 31000H	L4IHV	334	578	a	TX	60½	10x2¾x	P
48	(9) 76A	1990	131	227	19000	5400	7.00/20D	9.75/20	Her JXDG	6-4x4¼	320	5.9	244	95-2800	7-2½x10	N	Cla 200V	5	Tim 56411	SF	H	4.44-7.40	Tim 32500H	L4IHV	334	578	a	TX	60½	10x2¾x	P
49	(9) 86A	2305	131	227	21500	5700	7.50/20D	10.50/20	Her JXDG	6-4x4¼	320	5.9	244	95-2800	7-2½x10	N	Cla 200V	5	Tim 58300	SF	H	5.25-7.80	Tim 33000H	L4IHV	380	660	a	TX	60½	10x2¾x	P
50	(9) 96A	3565	131	227	28000	8000	9.00/20D	10.50/20	Her WXLC3	6-4¼x4¾	404	5.9	294	118-2800	7-2⅝x10	Y	Cla 270V	5	Wis 1337H	2F	H	5.63-8.59	Tim 35000H	L4IHV	474	768	a	TX	60½	12x2¾x	P
51	(D) (9) D46A	2545	131	227	14000	4100	6.00/20S	8.25/20	Her DJXB	6-3½x4½	260	14.	178	77-2600	7-3x10	Y	Cla 185F	4	Tim 53300	SF	H	4.57-5.66	Tim 30000H	L4IH	252	402	a	TX	60½	7½x2¾x¼	T
52	(D) (9) D56A	2750	131	227	15000	4900	6.50/20D	8.25/20	Her DJXB	6-3½x4½	260	14.	178	77-2600	7-3x10	Y	Cla 185F	4	Tim 54411	SF	H	4.12-6.80	Tim 31000H	L4IHV	334	578	a	TX	60½	10x2¾x	P
53	(D) (9) D71A	3020	131	227	17000	5400	7.00/20D	9.00/20	Her DJXC	6-3¾x4½	298	14.	194	84-2600	7-3x10	Y	Cla 200V	5	Tim 55411	SF	H	5.72-6.26	Tim 31000H	L4IHV	334	578	a	TX	60¼	10x2¾x	P
54	(D) (9) D76A	3410	131	227	19000	5700	7.00/20D	9.75/20	Bud 6DT31	6-3⅝x5½	317	14.	224	90-2300	7-3x9½	Y	Cla 200V	5	Tim 56411	SF	H	4.44-7.40	Tim 32500H	L4IHV	334	578	a	TX	60½	10x2¾x	P
55	(D) (9) D86A	4445	131	227	21500	6000	7.50/20D	10.50/20	Bud 6DT38	6-3⅝x5½	389	14.	284	96-2100	7-3x12	Y	Cla 270V	5	Tim 58300	SF	H	5.25-6.83	Tim 33000H	L4IHV	380	660	a	TX	60½	10x2¾x	P
56	(D) (9) D96A	5330	131	227	28000	8100	9.00/20D	10.50/20	Bud 6DT38	6-3⅝x5½	389	14.	284	96-2100	7-3x12	Y	Cla 270V	5	Wis 1337H	2F	H	5.63-8.59	Tim 35000H	L4IHV	474	768	a	TX	60½	12x2¾x	P
57	....GF	5775	150	225	24000	9060	9.75/20D	10.50/20	Her HXC	6-5¼x6	779	4.5	505	143-1600	7-3½x17	N	BL 744	4	Wis 1337H	2F	H	4.29*7.2	Tim 33009	L4IHV	474	768	a	TD	67	12x2½x¼	TP
58	Hug 85W	**	125	125	23000	7150	8.25/20D	9.00/20	Wau 6BZ	6-4x4¼	320	5.7	210	83-2500	7-2⅝x10¼	Y	Fu 5B33	5	Cla R1300	SF	H	**-7.16	Shu 632	L4IHV	442	689	a	TD	72	7x3¾x	I
59	....87W	**	134	134	31000	9540	11.00/20D	11.00/20	Wau 6MZR	6-4¼x4¾	404	5.3	286	95-2200	7-2⅝x12½	Y	Fu 5A43	5	Wis 1757	2F	T	**-9.2	Shu 647	L4IHV	548	867	a	TD	84	8x4	I
60	....92U	**	134	134	37000	11600	11.00/24D	12.00/24	Wau6SRKR	6-4½x5½	517	4.5	365	125-2200	7-3x13½	Y	Fu 5A62	5	Wis 79746	2F	T	**-10.2	Shu 678	Ws4IA	760	1190	a	TD	84	8x4	I
61	(D) D92U	**	134	134	37000	12065	11.00/24D	12.00/24	Her DRXB	6-4½x6	448	17.	370	100-1800	5-4½x11½	Y	Fu 5A62	5	Wis 79746	2F	T	**-10.2	Shu 678	Ws4IA	760	1190	a	TD	84	8x4	I
62	98	**	171	171	47500	13615	12.00/24D	14.00/24	Wau 6RBR	6-5x5½	677	5.3	480	144-1800	4-3½x11½	Y	Fu 8A86	8	Tim 79746	2F	T	**-10.2	Shu 1673	Ws4IA	760	1190	a	TD	90	9x4	I
63	(D) D98	**	171	171	47500	13615	12.00/24D	14.00/24	Cum HB600	6-4½x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 8A86	8	Tim 79746	2F	T	**-10.2	Shu 1673	Ws4IA	760	1190	a	TD	90	9x4	I
64	International (11)																														
65	K-1	550	113	125	4400	2190	6.00/16S	7.00/16S	O-GRD 214	6-3⅛x4½	213	6.3	160	82-3400	4-2⅝x6	N	O HDS	3	Own R1050	S½	H	3.72-5.11	Own F50	L4IH	164	316	s	2I	38	6x2¼x½	T
66	K-1-M	560	102	113	4600	2090	6.00/16S	7.00/16S	O-GRD 214A	6-3⅛x4½	213	6.3	160	82-3400	4-2⅝x6	Y	O SAHDSA	3	Own R1050	S½	H	3.72-5.11	Own F150	L4IH	164	316	s	TX	....	6½x2¼x	T
67	K-2	580	125	....	5200	2225	6.00/16S	7.00/16S	O-GRD 214	6-3⅛x4½	213	6.3	160	82-3400	4-2⅝x6	Y	O HDS	3	Own R1050	S½	H	3.72-5.11	Own F50	L4IH	164	316	s	2I	50	6x2¼x	T
68	K-3	680	113	130	6650	2940	7.00/16S	6.50/16	O-GRD 214	6-3⅛x4½	213	6.3	160	82-3400	4-2⅝x6	Y	O HDSA	3	Own R1150	SF	H	4.22-5.28	Own F150	L4IH	195	367	s	2I	38	6½x2½x	T
69	K-3-M	670	102	113	7000	2525	7.00/16S	7.50/16S	O-GRD 214A	6-3⅛x4½	213	6.3	160	82-3400	4-2⅝x6	Y	O SHDSA	3	Own R1150	SF	H	4.87-6.50	Own F260	L4IH	221	367	s	TX	....	6½x2¼x	T
70	(a) K-4	710	113	159	10000	3175	32x6S	7.50/20	O-GRD 214	6-3⅛x4½	213	6.3	160	82-3400	4-2⅝x6	N	O H41B	4	Own R1350	SF	H	5.28-6.66	Own F250	LH4IH	226	406	c	TX	38	7x3x	T
71	(a) K-5	770	135	177	13500	3585	6.00/20D	8.25/20	O-GRD 233	6-3⅛x4½	233	6.3	181	93-3400	4-2⅝x6	N	O H41B	4	Own R1360	SF	H	5.28-6.66	Own F350	LH4IH	294	509	c	TX	60	8x3x	T
72	(a) K-6	1125	134	176	14500	4380	6.50/20D	8.25/20	O-BLD 250	6-3⅛x4½	251	6.3	200	100-3200	4-2.7x5	N	O H41C	4	Own R1450	SF	H	5.62-7.16	Own F470	LH4IHV	305	539	c	TX	60	8¼x3x	T

† Rear 6.50/20. * Rear 7.00/16. ‡ Rear 7.00/17 6-ply. ‡ Rear 32x6 single. ' ↓ Denotes new models or change in specifications. (●) Federal—Chassis weight shown is for average chassis without cab and complete with average size tires, tools, spare rim, fuel, oil and water. § Fingertip shifting on steering. ** Prices not available.

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Line No.	Make and Model	Chassis List Price	Wheelbase Min. Standard	Wheelbase Max. Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	Tire Sizes D-dual rear S-single rear: Standard Front and Rear	Tire Sizes: Maximum Authorized Tire Size (Duals unless noted)	Engine Details: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	Transmission: Make and Model	Forward Sp'ds	Rear Axle: Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	Front Axle: Make and Model	Brakes SERVICE: Make Location Type Operat'n	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimension (Min. Std. W. B.)	Frame: Side Rail Dimensions	Type
1	Ward La Fr (Cont) ..... (c.o.e.) K	5643	146	Opt	28000	9500	9.75/20D	10.50/24	Wau SRLR	6-4½x5½	462	5.0	332	112-2400	7-3x13½	Y	Fu 5A620	5	Wis 1337 H	2F	R	5.6-9.4	Shu 672B1	L4IHV	448	....	a	CD	122	12x3¼	T
2	..... (c.o.e.) L	6651	146	Opt	36000	10000	10.50/20D	10.50/24	Wau SRKR	6-4½x5½	517	5.0	365	126-2400	7-3x13½	Y	Fu 5A620	5	Wis 1757W	2F	R	6.00-9.2	Shu 673B12	Ws4IA	544	....	a	CD	122	12x3¼	T
3	..... (c.o.e.) J	4893	132	Opt	28000	9000	9.75/20D	10.50/20	Wau MZR	6-4¼x4¾	404	5.7	305	112-2600	7-2½x12½	Y	Fu 5A430	5	Wis 1337H	2F	R	5.60-9.40	Shu 672B1	L4IHV	448	....	a	CD	106	12x3¼	T
4	..... (c.o.e.) LD	8709	146	Opt	36000	11000	10.50/20D	10.50/24	Cum HB600	6-4½x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 4A86	5	Wis 1757W	2F	R	6.00-9.20	Shu 673B12	Ws4IA	544	....	a	TD	122	12x3¼	T
5	..... (c.o.e.) MD	8951	146	Opt	40000	12500	10.50/20D	10.50/24	Cum HB600	6-4½x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 4A86	5	Wis 1910W	2F	R	7.10-10.0	Shu 673B12	Ws4IA	544	....	a	TD	122	12x3¼	T
6	Warford. (C) DC-2	2875	163	200	26500	6200	32x6D	8.25/20	Ford V-8	8-3⅛x3¾	221	6.1	156	90-3800	3-2.5x4.7	N	Ford Own	8	Ford	8F	A	6.67	Ford	6IHV	501	712	A	FX	89	7½x3x½	C
7	..... (C) WC-2	2875	163	204	26500	6100	32x6D	8.25/20	Chev.	6-3½x3¾	217	6.5	174	90-3200	4-2¾x5⅛	N	Chev. Own	8	Chev.	HY	A	6.17	Chev.	6IHV	545	710	A	4I	86¾	7½x3x½	C
8	..... (C) DC-1	2875	163	200	30000	6400	7.50/20D	8.25/20	Ford V-8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.7	N	Ford Own	8	Ford	8F	A	6.67	Ford	6IHV	501	712	A	FX	89	7½x3x½	C
9	..... (C) WC-1	2875	163	204	30000	6300	7.50/20D	8.25/20	Chev.	6-3⅛x3½	235	6.6	192	93-3200	4-2¾x5⅛	N	Chev. Own	8	Chev.	HY	A	6.17	Chev.	6IHV	545	710	A	4I	86¾	7½x3x½	C
10	Willys.. (18) SC442	410	104	104	3700	1285	5.50/16S	6.00/16S	Own 442	4 3½x4¼	134	6.1	106	61-3800	3-2.3x5.5	N	WG T84G	3	Sal 21-1	3	S	4.82	Own 442	B4IH	155	220	a	2I	32½	4¾x1¾x⅛	KX
11	.(18) SCOF442P	(18)	104	104	3900	1285	6.00/16S	(18)	Own 442P	4-3½x4½	134	6.1	106	61-3800	3-2.3x5.5	Y	WG T84G	3	Sal 21-1	3	H	4.82	Own 442P	B4IH	155	220	a	2I	.....	4¾x1¾x⅛	KX
	Four-Wheel-Drive																														
12	Corbitt... (10) F-12	2375	Opt	Opt	12500	4460	6.50/20D	8.25/20	Con A6244	6-3⅛x4¾	244	5.4	170	83-3200	4-2¾x6¼	N	WG T9	8	Tim 53521H	8F	H	5.14-6.6	Wis F30B	L4IH	270	452	a	TX	Opt	7½x3½x⅛	T
13	..... (10) F-14	3200	Opt	Opt	14500	5060	7.50/20D	8.25/20	Con M6271	6-3½x4⅜	271	5.7	191	85-2900	7-2¾x12⅛	N	Cla B116C	8	Tim 54411H	8F	H	5.83-6.8	Wis F544B	L4IH	335	578	a	TD	Opt	8x3½x¼	T
14	..... (10) F-18	4500	Opt	Opt	18500	6900	8.25/20D	9.00/20	Con B6371	6-4½x4⅝	371	5.7	280	100-2650	7-2¾x13½	N	Fu 5A43	10	Wis 5002L	2F	H	6.00-8.21	Wis F501H‡	L4IH	335	578	a	TD	Opt	9x2½x¾	TD
15	..... (10) F-19	4300	Opt	Opt	19500	6500	8.25/20D	9.00/22	Con M-6330	6-4x4⅜	330	5.5	238	103-3000	7-2¾x12⅛	Y	Fu 5A330	10	Wis 5002L	2F	H	6.62-8.21	Wis F551H	L4IHV	335	578	a	TD	Opt	8x3½x¾	T
16	..... (10) F-23	5500	Opt	Opt	23500	9000	9.00/20D	9.75/22	Con 20-R	6-4½x4¾	381	4.8	276	106-2600	7-2¾x13⅛	N	Fu 5A430	10	Wis 72300H	2F	H	5.61-8.40	Wis F213H	L4IHV	534	786	a	TD	Opt	8½x3½x⅛	T
17	..... (10) F-27	6800	Opt	Opt	27500	10000	9.75/22D	10.50/22	Con 21-R	6-4⅝x4¾	428	5.0	325	125-2400	7-2¾x13⅛	N	Fu 5A620	10	Wis 1337BH	2F	H	6.36-8.59	Wis F313H	L4IHV	625	976	a	TD	Opt	12¼x3¼x⅛	T
18	..... (10) F-35	8500	Opt	Opt	35500	12500	10.50/20D	11.25/24	Con 22-R	6-4½x5¼	501	5.9	400	150-2200	7-2¾x12⅛	N	Fu 5A620	10	Wis 1737KW	2F	H	6.39-9.16	Wis F417KW	Ws4IA	701	976	a	TD	Opt	12¼x3¼x⅛	T
19	F. W. D..... HS	*°2960	132	156	15000	z6600	7.00/20D	8.25/20	Wau BK	6-3¼x4¼	282	6.0	189	84-2800	7-2½x10¼	Y	Fu 5B33	5	Own HS	8F	H	7.10-7.85	Own HS	L4IHV	367	578	G	T4	67¾	9x3x¼	T
20	..... HA	*°3420	132	156	17000	z6800	7.50/20D	9.00/20	Wau BZ	6-4x4¼	320	5.9	222	95-2800	7-2½x10¼	Y	Fu 5B33	5	Own H	8F	H	7.30-8.06	Own H	L4IHV	391	660	G	T4	67¾	9x3x¼	T
21	..... HR	*°3980	144	154	20000	z7800	7.50/20D	10.00/20	Wau MKR	6-4½x4¾	381	5.75	270	98-2500	7-2½x12½	Y	Fu 5A43	5	Own H	8F	H	7.30-8.06	Own H	L4IHV	391	660	G	T4	79¾	9x3x¼	T
22	..... CU	*°4920	150	182	22000	z9500	10.00/20S	Opt	Wau MZR	6-4¼x4¾	404	5.6	288	106-2500	7-2½x12½	Y	Own U	5	Own U	BF	H	6.72-8.84	Own U	L4IHV	496	867	G	T4	90	7⅛x3x‖	C
23	..... CUA	*°4640	150	182	22000	z9350	10.00/20S	Opt	Wau MZR	6-4¼x4¾	404	5.6	288	106-2500	7-2½x12½	Y	Fu 5A43	5	Own U	BF	H	6.72-8.84	Own U	L4IHV	496	867	G	T4	90	7⅛x3x‖	C
24	..... SU	*°5640	150	182	25000	z10150	12.00/20S	Opt	Wau SRLR	6-4⅜x5½	462	5.5	330	112-2400	7-3x10¾	Y	Own U	5	Own U	BF	H	6.72-8.84	Own U	L4IHV	496	867	G	T4	90	7⅛x3x‖	C
25	..... SUA	*°5440	150	182	25000	z10050	12.00/20S	Opt	Wau SRLR	6-4⅜x5½	462	5.5	330	112-2400	7-3x10¾	Y	Fu 5A62	5	Own U	BF	H	6.72-8.84	Own U	L4IHV	496	867	G	T4	90	7⅛x3x‖	C
26	..... YU	*°6300	150	182	26000	z10300	11.00/20D	Opt	Wau SRKR	6-4½x5½	517	5.5	369	126-2300	7-3x10⅞	Y	Own U	5	Own U	BF	H	6.72-8.84	Own U	L4IHV	496	867	G	T4	90	8x3x‖	C
27	..... MJ6	*°7040	150	180	30000	z13250	11.00/20D	Opt	Wau SRKR	6-4½x5½	517	5.5	369	126-2300	7-3x10¾	Y	Own M	10	Wis 1337	2F	H	6.65-8.67	Wis 1337	L4IHV	578	976	G	T4	90	10⅛x3x‖	C
28	..... M6	*°7850	150	180	32000	z13800	11.00/20D	Opt	Wau 140GK	6-4½x5½	525	5.8	410	138-2300	7-3¼x13‖	Y	Own M	10	Wis 1757	2F	H	6.42-8.47	Wis 1757	L4IHV	578	976	G	T4	90	10⅛x3x‖	C
29	..... M7	*°8800	150	180	38000	z14000	13.00/20S	Opt	Wau 145GK	6-5¼x6	779	5.6	580	162-2000	7-3½x17¾	Y	Own M	10	Wis 1757	2F	H	6.42-8.47	Wis 1757	L4IHV	578	976	G	T4	90	10⅛x3x‖	C
30	..... M10	*°10400	150	180	42000	z14250	14.00/20S	Opt	Her HXE	6-5¾x6	935	5.5	610	198-2000	7-3½x16⅝	Y	Own M	10	Wis 1910	2F	H	7.16-9.23	Wis 1910	Ws4IA	639	976	G	T4	90	10⅛x3x‖	C
31	..... (T) T26	*°2990	132	156	(x)	z6600	7.00/20D	8.25/20	Wau BK	6-3¼x4¼	282	5.7	189	84-2800	7-2½x10¼	Y	Fu 5B330	5	Own HS	8F	H	6.48-8.78	Own HS	L4IHV	367	578	G	T4	67¾	9x3x¼	T
32	..... (T) T30	*°3450	132	156	(x)	z6800	7.50/20D	9.00/20	Wau BZ	6-4x4¼	320	5.9	222	95-2800	7-2½x10¼	Y	Fu 5B330	5	Own H	8F	H	6.66-9.04	Own H	L4IHV	391	660	G	T4	67¾	9x3x¼	T
33	..... (T) T32	*°4010	132	154	(x)	z7800	7.50/20D	10.00/20	Wau MKR	6-4½x4¾	381	5.7	270	98-2500	7-2½x12½	Y	Fu 5A430	5	Own H	8F	H	6.66-9.04	Own H	L4IHV	391	660	G	T4	67¾	9x3x¼	T
34	Kenworth..... 539	6730	134	146	24000	10180	9.00/20D	10.00/24	Wau MZR	6-4¼x4¾	404	5.9	300	112-2600	7-3x11½	Y	Fu 5A62	5	Wis 72300	2F	H	5.77-8.40	Wis F207	L4IHV	458	785	a	PD	72	7½x3¼x1½	C
35	 540	7976	134	146	27700	10310	10.00/20D	10.00/24	Wau MZR	6-4¼x4¾	404	5.9	300	112-2600	7-3x11½	Y	Fu 5A62	5	Wis 1337	2F	H	6.85-9.41	Wis F323	Ws4IA	648	975	a	PD	72	7½x3¼x1½	C
36	 541	8619	134	146	27700	10650	10.00/20D	10.00/24	Bud LO525	6-4½x5½	525	5.5	385	135-2200	7-3x11½	Y	Fu 5A62	5	Wis 1337	2F	H	6.85-9.41	Wis F323	Ws4IA	648	975	a	PD	72	7½x3¼x1½	C
37	 542	9253	134	146	35000	10935	10.50/20D	11.00/24	Bud LO525	6-4½x5½	525	5.5	385	135-2200	7-3x11½	Y	Fu 5A62	5	Wis 1757	2F	H	6.02-8.50	Wis F427	Ws4IA	648	975	a	PD	72	7½x3¼x1½	C
38	Marmon-(C) LD6-4	**	114	114	4500	2719	7.50/15S	7.50/15S	Ford V8†	8-3⅛x3¾	221	6.1	150	90-3800	3-2.5x4.71	N	Ford	4	Ford	8¾	U	**-4.5	Own LD5	FO4IH	162	264	ac	2I	40	5‖x2½x.15	TDx
39	Herr. (C) OT5-4	**	122	122	6800	3972	7.00/18S	7.50/18S	Ford V8†	8-3⅛x3¾	221	6.1	150	90-3800	3-2.5x4.71	N	Ford	4	Ford	8F	H	*-4.86	Own OT4	FO4IH	201	308	ac	2I	48	6x2¼x.19	T
40	..... (C) MM5-4	**	134	134	13500	4361	6.00/20D	7.50/20	Ford V8†	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Ford	8F	H	**-6.67	Own IX4-11	FO4IH	303	506	ac	TX	60	7x2¾x.21	T
41	..... (C) MM6-4	**	158	158	13500	4441	6.00/20D	7.50/20	Ford V8†	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Ford	8F	H	**-6.67	Own IX4-11	FO4IH	303	506	ac	TX	84	7x2¾x.21	T
42	(C) (c.o.e.) MM5-4	**	134	134	13500	4531	6.00/20D	7.50/20	Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Ford	8F	H	**-6.67	Own IX4-12	FO4IH	303	506	ac	TX	93	7x2¾x.21	T
43	(C) (c.o.e.) MM6-4	**	158	158	13500	4611	6.00/20D	7.50/20	Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Ford	8F	H	**-6.67	Own IX4-12	FO4IH	303	506	ac	TX	117	7x2¾x.21	T
44	..... DSD100-4	**	143	Op	13200	5040	6.50/20D	7.50/20	Her JXB	6-3½x4¾	263	5.4	182	78-2800	7-2½x10‖	N	WG T9WG	4	Tim MH1011	8F	H	*-6.8	TWH 101	L4IH	267	452	a	TX	60	7‖x2½x¼	CC
45	..... DSD200-4	**	143	Op	13200	5500	7.00/20D	7.50/20	Her JXC	6-3¾x4¼	282	5.3	196	84-2800	7-2½x10‖	N	Ful 5A33	5	Tim MH1011	8F	H	*-6.8	TWH 101	L4IH	267	452	a	TX	60	7‖x2½x¼	CC
46	..... DSD300-4	**	143	Op	15900	5764	7.50/20D	8.25/20	Her JXD	6-4x4¼	320	5.3	224	95-2800	7-2½x10‖	N	Ful 5A33	5	Tim MH1022	8F	H	*-6.8	TWH 102	L4IH	281	527	a	TX	60	7‖x2½x¼	C
47	..... DSD400-4	**	158	Op	19500	7782	8.25/20D	9.00/20	Her WXC3	6-4¼x4½	383	5.0	260	106-2800	7-2⅝x13¼	Y	Ful 5A430	5	Tim MH1033	8F	H	*-6.83	TWH-103	L4IH	342	578	a	FD	72	9‖x3x¼	C
48	..... DSD500-4	**	158	Op	23400	8680	9.00/20D	9.75/20	Her WXLC3	6-4¼x4⅜	404	5.0	293	118-2800	7-2⅝x13¼	Y	Ful 5A430	5	Tim MH1044	8F	H	*-7.8	TWH 104	L4IH	384	785	a	FD	72	9‖x3x¼	C
49	..... DSD-550-4	**	158	Op	23400	8940	9.00/20D	9.75/20	Her RXB	6-4½x5¼	501	5.4	360	121-2200	7-3x13¼	Y	Ful 5A620	5	Tim MH1044	8F	H	*-7.8	WH 104	L4IH	384	785	a	FD	72	9‖x3x¼	C
50	..... DSD550DR-4	**	158	Op	23400	9950	9.00/20D	9.75/20	Her RXB	6-4½x5¼	501	5.4	360	121-2200	7-3x13¼	Y	Ful 5A620	5	Wis MH1066	2F	H	*-7.52	WH 106	L4IH	738	975	a	FD	72	9‖x3x¼	C
51	..... DSD600-4	**	161	Op	23400	9700	9.00/20D	9.75/20	Her RXB	6-4½x5¼	501	5.4	360	121-2200	7-3x13¼	Y	Ful 5A620	5	Wis MH1055	2F	H	*-7.21	WH 105	L4IH	461	785	a	FD	72	9‖x3x¼	C
52	..... DSD700-4	**	161	Op	25200	10300	9.75/20D	9.75/22	Her RXB	6-4½x5¼	501	5.4	360	121-2200	7-3x13¼	Y	Ful 5A620	5	Wis MH1077	2F	H	*-7.52	WH 107	Ws4IA	738	975	a	FD	72	10⅛x3x⅛	C
53	..... DSD800-4	**	161	Op	30000	10850	10.50/20D	10.50/22	Her RXC	6-4½x5¾	529	4.9	390	131-2200	7-3x13¼	Y	Ful 5A620	5	Wis MH1088	2F	H	*-8.23	WH 108	Ws4IA	738	975	a	FD	72	10⅛x3x⅛	C
54	..... DSD900-4	**	195	Op	30000	13500	10.50/20D	10.50/22	Her HXD	6-5¼x6	855	4.5	555	180-2200	7-3½x16⅛	Y	Ful 4A86	4	Wis MH1088	2F	H	*-8.23	WH 108	Ws4IA	738	975	a	FD	102	10⅛x3x⅜	P
55	..... DSD1000-4	**	195	Op	40000	15650	10.50/24D	12.75/20	Her HXE	6-5¾x6	935	4.5	610	198-2200	7-3½x16⅜	Y	Ful 4A86	4	Wis MH1099	2F	H	*-8.88	WH 109	Ws4IA	738	975	a	FD	102	10⅛x3x⅜	P
56	(D) DDSD200-4	**	143	Op	13200	5675	7.50/20D	7.50/20	Her DJXB	6-3¾x4½	260	14.	178	79-2600	7-3x10‖	N	Ful 5A33	5	Tim MH1011	8F	H	*-5.83	TWH 101	L4IH	267	452	a	TX	60	7½x2½x¼	C
57	(D) DDSD300-4	**	143	Op	15900	6155	7.50/20D	8.25/20	Her DJXC	6-3¾x4½	298	14.	208	83-2600	7-3x10‖	Y	Ful 5A33	5	Tim MH1022	8F	H	*-5.83	TWH 102	L4IH	281	527	a	TX	60	7½x2½x¼	C
58	(D) DDSD550DR-4	**	158	Op	23400	10560	9.00/20D	9.75/20	Her DRXB	6-4¾x5¼	474	14.	350	124-2200	7-3x13½	Y	Ful 5A620	5	Wis MH1066	2F	H	*-6.65	WH 106	L4IH	738	975	a	FD	72	9‖x3x¼	C
59	(D) DDSD700-4	**	161	Op	25200	10910	9.75/20D	9.75/22	Her DRXB	6-4¾x5¼	474	14.	350	124-2200	7-3x13½	Y	Ful 5A620	5	Wis MH1077	2F	H	*-6.65	WH 107	Ws4IA	738	975	a	FD	72	10⅛x3x⅛	C
60	(D) DDSD800-4	**	161	Op	30000	11435	10.50/20D	10.50/22	Her DRXB	6-4¾x5¾	474	14.	350	124-2200	7-3x13½	Y	Ful 5A620	5	Wis MH1088	2F	H	*-7.0	WH 108	Ws4IA	738	975	a	FD	72	10⅛x3x⅛	C
61	(D) DDSD900-4	**	198	Op	30000	14200	10.50/20D	10.50/22	Her DHXB	6-5x6	707	14.	530	176-1800	7-3¾x17	Y	Ful 4A86	4	Wis MH1088	2F	H	*-7.22	WH 108	Ws4IA	738	975	a	FD	102	10⅛x3x⅜	P
62	(D) DDSD1000-4	**	198	Op	40000	16375	10.50/24D	10.50/24	Her DHXB	6-5x6	707	14.	530	176-1800	7-3¾x17	Y	Ful 4A86	4	Wis MH1099	2F	H	*-7.95	WH 109	Ws4IA	738	975	a	FD	102	10⅛x3x⅜	P
63	Oshkosh.... W-100	**	130	160	15000	6300	7.00/20D	8.25/20	Her JXC	6-3¾x4¼	282	5.3	215	87-3000	7-2½x10‖	Y	Fu 5B33	5	Own 100	8F	H	6.8	Own 100	L41H‡	335	578	a	TX	71	6x3½x¼	Tfp
64	..... W-200	**	130	160	18000	6600	7.50/20D	8.25/20	Her JXD	6-4x4¼	320	5.3	230	96-2800	7-2½x10‖	Y	Fu 5B33	5	Own 200	8F	H	5.71	Own 200	L41H	335	578	a	TX	71	6x3½x¼	Tfp
65	..... W-300	**	149	205	22000	9100	10.00/20S	11.00/20	Her WXC3	6-4¼x4½	383	6.0	290	105-2500	7-2⅝x13¼	Y	Fu 5A43	5	Own 300	8F	H	7.8	Own 300	L41H	560	867	G	TX	82	8¼x3x⅜	Tf

‡ Denotes new models or change in specifications. † 6 cylinder engine may be installed.

* Includes price of cab. ** Prices not available at this time. (x) Tire capacity governs gross load. z All chassis weights include cab. ° Prices subject to change without notice.

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Line Number	MAKE AND MODEL	Wheels Driven	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES Standard Front and Rear	TIRE SIZES D-dual rear S-single rear	TIRE SIZES Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings Number, Diameter and Length	Governor Standard	TRANSMISSION Make and Model	TRANSMISSION Forward Sp'ds	REAR AXLE Make and Model	REAR AXLE Gear and Type	REAR AXLE Drive & Torque	REAR AXLE Gear Ratio Range in High	FRONT AXLE Make and Model	BRAKES SERVICE Make Location Type Operat'n	BRAKES SERVICE Lining Area	BRAKES SERVICE Drum Area	BRAKES SERVICE Drum Material	BRAKES Hand Location Type	C-A Dimension (Min. Std. W. B.)	FRAME Side Rail Dimensions	FRAME Type
▶																																		
1	Marmon-Herr.										Her JXC	6-3½x4¼	282	5.3	196	84-2800	7-2½x10¼	N	Ful 5A33	5	Wis MH1100	2F	R	*-7.36	WH 110	L&IH	549	930	a	TX	84	7½x23½x¼	P
2	.....										Her JXD	6-4x4¼	320	5.3	224	95-2800	7-2½x10¼	N	Ful 5A33	5	Wis MH1111	2F	R	*-7.66	WH 111	L&IH	600	1055	a	FD	84	7½x23½x¼	P
3	.....										Her WXC3	6-4¼x4½	383	5.0	200	106-2900	7-2½x13¾	Y	Ful 5A430	5	Wis MH1111	2F	R	*-9.33	WH 111	L&IH	600	1055	a	FD	84	9½x23½x¼	P
4	.....										Her WXLC3	6-4¼x4½	404	5.0	293	118-2900	7-2½x13¾	Y	Ful 5A430	5	TW MH1133	2F	R	*-9.33	WH 113	W61A	726	1300	a	FD	84	9½x23½x¼	P
5	.....										Her RXB	6-4¼x5¼	501	5.4	330	110-2200	7-3x13¾	Y	Ful 5A620	5	TW MH1133	2F	R	*-8.43	WH 113	W61A	726	1300	a	FD	84	10½x23½x¼	P
6	.....										Her RXC	6-4¼x5¼	529	4.9	390	131-2200	7-3x13¾	Y	Ful 5A620	5	TW MH1144	2F	R	*-8.14	WH 114	W61A	1056	1626	a	FD	84	10½x23½x¼	P
7	.....										Her HXD	6-5¼x6	855	4.5	555	180-2200	7-3½x16½	Y	Ful 4A86	4	TW MH1144	2F	R	*-9.11	WH 114	W61A	1056	1626	a	FD	96	10½x23½x¼	P
8	.....										Her HXB	6-5¼x6	855	4.5	555	180-2200	7-3½x16½	Y	Ful 4A86	4	TW MH1155	2F	R	*-9.11	WH 115	W61A	1056	1626	a	FD	102	10½x23½x¼	P
(D)	DD8D900-6										Her DHXB	6-5x6	707	14.5	530	176-1800	7-3¼x17	Y	Ful 4A86	4	TW MH1144	2F	R	**-8.14	WH 114	W61A	1056	1626	a	FD	96	10½x23½x¼	P
(D)	DD8D1000-6										Her DHXB	6-5x6	707	14.5	530	176-1800	7-3¼x17	Y	Ful 4A86	4	TW MH1155	2F	R	**-8.14	WH 115	W61A	1056	1626	a	FD	102	10½x23½x¼	P
.....	.....										Ford V8†	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-11	FO61H	503	836	aa	TX	106¾	7½x33x.21	TL
(D)	DD8D300-6										Ford V8†	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-12	FO61H	503	836	aa	TX	115	7½x33x.21	TL
(D)	DD8D600-6										Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-12	FO61H	503	836	aa	TX	139	7½x33x.21	TL
(D)	DD8D800-6										Her DRXB	6-4¼x5¼	474	14.5	350	124-2200	7-3x13¾	Y	Ful 5A620	5	TW MH1144	2F	R	*-8.14	WH 114	W61A	1056	1626	a	FD	84	10½x23½x¼	P
13	(D) DD8D900-6										Her DHXB	6-5x6	707	14.5	530	176-1800	7-3¼x17	Y	Ful 4A86	4	TW MH1144	2F	R	**-8.14	WH 114	W61A	1056	1626	a	FD	96	10½x23½x¼	P
14	(D) DD8D1000-6										Her DHXB	6-5x6	707	14.5	530	176-1800	7-3¼x17	Y	Ful 4A86	4	TW MH1155	2F	R	**-8.14	WH 115	W61A	1056	1626	a	FD	102	10½x23½x¼	P
.....	.....										Ford V8†	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-11	FO61H	503	836	aa	TX	106¾	7½x33x.21	TL
(C)	(e.o.e.) MM5-6										Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-12	FO61H	503	836	aa	TX	115	7½x33x.21	TL
(C)	(e.o.e.) MM6-6										Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-12	FO61H	503	836	aa	TX	139	7½x33x.21	TL
(D)	DD8D800-6										Her DRXB	6-4¼x5¼	474	14.5	350	124-2200	7-3x13¾	Y	Ful 5A620	5	TW MH1144	2F	R	*-8.14	WH 114	W61A	1056	1626	a	FD	84	10½x23½x¼	P
15	(D) DD8D900-6										Her DHXB	6-5x6	707	14.5	530	176-1800	7-3¼x17	Y	Ful 4A86	4	TW MH1144	2F	R	**-8.14	WH 114	W61A	1056	1626	a	FD	96	10½x23½x¼	P
16	(D) DD8D1000-6										Her DHXB	6-5x6	707	14.5	530	176-1800	7-3¼x17	Y	Ful 4A86	4	TW MH1155	2F	R	**-8.14	WH 115	W61A	1056	1626	a	FD	102	10½x23½x¼	P
.....	.....										Ford V8†	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-11	FO61H	503	836	aa	TX	106¾	7½x33x.21	TL
(C)	(e.o.e.) MM5-6										Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-12	FO61H	503	836	aa	TX	115	7½x33x.21	TL
(C)	(e.o.e.) MM6-6										Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-12	FO61H	503	836	aa	TX	139	7½x33x.21	TL
17	(C) (e.o.e.) MM6-6										Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-12	FO61H	503	836	aa	TX	139	7½x33x.21	TL
18	(C) (e.o.e.) MM6-6										Ford V8	8-3⅛x3¾	239	6.1	176	100-3600	3-2.5x4.71	N	Ford	4	Tim Ford	8F	R	**-6.67	Own 1X4-12	FO61H	503	836	aa	TX	139	7½x33x.21	TL
19	Sterling										Wau 6MZR	6-4¼x4¾	404	5.6	286	106-2500	7-2½x12¾	Y	Fu 5A430	5	Tim SW3000PA	WF	L	5.40-8.50	Tim 36000N	W61A	1056	1626	a	FD	96	10½x23½x¼	P
20	.....	(16)	HW8140	**	166	227	36000	10975	9.00/20D	10.00/20D	Wau6RKR	6-4¼x5½	517	5.5	369	125-2250	7-3¼x13¾	Y	Fu 5A62	5	Tim SW3000PA	WF	L	5.40-8.50	Tim 36000N	W61A	1056	1626	a	FD	102	10½x23½x¼	P
21	.....	(16)	HW8160	**	166	227	40000	11475	10.00/20D	11.00/20D	Wau6RGKR	6-4¼x5½	517	5.5	369	125-2250	7-3¼x13¾	Y	Fu 5A62	4	Tim8W4522W	WF	L	5.40-8.50	Tim 36000N	W61A	1056	1626	a	FD	82-96	10½x23½x¼	P
22	.....	(16)	HW8235	**	178	251	50000	14525	11.00/20D	11.00/24D	Wau 145GB	6-4¾x6	638	6.1	480	152-2100	7-3½x17¾	Y	Fu 4B86	4	Own 265W	CD	R	10.76–13.5	Tim 27451N	W61A	1056	1626	a	FD	106¾	10½x23½x¼	P
23	.....	(16)	HC8265	**	161	251	60000	17100	11.00/20D	12.00/24D	Wau 145GK	6-5¼x6	779	6.2	585	186-2100	7-3½x17¾	Y	Fu 4B86‡	4	Own 265W	CD	R	10.76–13.5	Tim 27451N	W61A	1056	1626	a	FD	106¾	10½x23½x¼	P
24	.....	(16)	HC8297	**	161	251	70000	20025	12.0/24D•	13.0/24D•	Wau 145GK	6-5¼x6	779	6.2	585	186-2100	7-3½x17¾	Y	Fu 4B86‡	4	Own 330W	CD	R	10.76–15.3	Tim 27451N	W61A	1056	1626	a	FD	106¾	10½x23½x¼	P
.....	.....	(16)	HC8330	**	174	188	80000	21425	12.0/24D•	14.0/24D•	Wau 145GK	6-5¼x6	779	6.2	585	186-2100	7-3½x17¾	Y	Fu 4B86‡	4	Own 330W	CD	R	10.76–15.3	Tim 27451N	W61A	1056	1626	a	FD	106¾	10½x23½x¼	P
25	Trucktotell										Chev	6-3⅜x3⅞	235	6.61	192	93-3000	4-2¾x5½	N	Chev	8	Eat 1475	8Fd	H	3.5–9.02	Chev	B61HV	511	729	a	21	83	7½x33x¼	P
26	(C)	TRC-2X400	2F	**	157	218	26000	6100	8.25/20	8.25/20	Chev	6-3⅜x3⅞	235	6.61	192	93-3000	4-2¾x5½	N	Chev	8	Eat 1475	8Fd	H	3.5–9.02	Chev	B61HV	511	729	a	21	83	7½x33x¼	P
27	(C)	TRC-4XD280	4R	**	154	204	27000	6250	8.25/20D	8.25/20	Chev	6-3⅜x3⅞	235	6.61	192	93-3000	4-2¾x5½	N	Chev-0	8	Eat 1475	8Fd	H	3.5–9.02	Chev	B61HV	511	729	a	21	86	7½x33x¼	P
28	(C)	TRC-4XD270	4R	**	141	212	27000	6580	7.50/20D	8.25/20	Chev	6-3⅜x3⅞	235	6.61	192	93-3000	4-2¾x5½	N	Chev-0	8	Eat 1475	8Fd	H	3.5–9.02	Chev	B61HV	511	729	a	21	86	7½x33x¼	P
29	(C)	TRF-4XD270	4R	**	116	196	27000	6890	7.50/20D	8.25/20	Chev	6-3⅜x3⅞	235	6.61	192	93-3000	4-2¾x5½	N	Chev-0	8	Eat 1475	8Fd	H	3.5–9.02	Chev	B61HV	511	729	a	21	86	7½x33x¼	P
30	(C)	TRF-2X350	2F	**	157	212	20000	5550	8.25/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford	8	Eat 1350	8Fd	H	5.83–8.57	Ford	F61HV	501	836	a	TX	81½	7½x33x¼	P
31	(C)	TRF-2X400	2F	**	156	253	26000	6000	8.25/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford	8	Eat 1460	8Fd	H	6.5–9.02	Ford	F61HV	501	836	a	TX	83	7½x33x¼	P
32	(C)	TRF-2X500	2F	**	122	241	23000	5050	7.50/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford	8	Eat 1350	8Fd	H	5.83–8.57	Ford	F61HV	501	836	a	TX	81½	7½x33x¼	P
33	(C)	TRF-2X400	2F	**	123	242	27000	6050	8.25/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford	8	Eat 1460	8Fd	H	6.5–9.02	Ford	F61HV	501	836	a	TX	83	7½x33x¼	P
34	(C)	TRF-4XD270	4R	**	143	210	26000	6600	7.50/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford-0	8	Ford	8Fd	H	6.88–7.87	Ford	F61HV	501	836	a	TX	67¾	7½x33x¼	P
35	(C)	TRF-4XD280	4R	**	143	210	29000	6880	8.25/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford-0	8	Eat 1350	8Fd	H	6.88–9.56	Ford	F61HV	501	836	a	TX	77¾	7½x33x¼	P
36	(C)	TRF-4XD270	4R	**	117	180	27000	6720	7.50/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford-0	8	Ford	8Fd	H	6.88–7.87	Ford	F61HV	501	836	a	TX	67¾	7½x33x¼	P
37	(C)	TRF-4XD30E0	4R	**	117	180	30000	7880	8.25/20D	8.25/20	Chev	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford-0	8	Eat 1350	8Fd	H	6.88–9.56	Ford	F61HV	501	836	a	TX	77¾	7½x33x¼	P
38	(C)	TRC-4XD31E0		**	117	184	31000	7950	8.25/20D	8.25/20	Chev	6-3⅜x3⅞	235	6.61	192	93-3000	4-2¾x5½	N	Chev-0	8	Eat 1475	8Fd	H	7.67	Chev	B61HV	511	729	a	21	76	7½x33x¼	P
39	(C)	TRF-4XD30E		**	143	210	31000	7550	7.50/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford-0	8	Eat 1460	8Fd	H	7.67	Ford	F61HV	501	836	a	TX	77¾	7½x33x¼	P
40	(C)	TRF-4XD31E0		**	117	180	31000	7950	7.50/20D	8.25/20	Ford	6-3⅜x3⅞	239	...	176	95-3600	3-2.5x4.7	N	Ford-0	8	Eat 1460	8Fd	H	7.67	Ford	F61HV	501	836	a	TX	77¾	7½x33x¼	P

**Prices not available at this time. † 6 cylinder engine may be installed. ♦ Denotes new models or change in specifications. x Front 7.00/20. ● 11.00/24 single front. ¶ 12.00/24 single front. ‡ 3 speed auxiliary transmission standard.

PERSONNEL CHANGES

Bert Dingley has been elected to the presidency of the Marmon-Herrington Co., Inc., Indianapolis, Ind. He is a well known automotive figure, having been associated with such pioneer manufacturers as Marmon and Stutz

James H. Rasmussen has been appointed head of the automotive division of the Crosley Corp. He joined the corporation in 1941 as manager of the radio division and later his duties were enlarged to take in all of the company's appliance product operations

John K. Colgate has been appointed vice-president and treasurer of the Tyson Bearing Corp., Massillon, Ohio. He is also a director of the Colgate-Palmolive-Peet Co.

Arrow Elects Vice-President

H. P. Schade, formerly sales manager, has been made vice-president and director of the Arrow Safety Devices Co., Medford, N. J. Mr. Schade is an old-timer in the industry and is well known from coast to coast.

Goodrich Names New District Manager

J. T. Callahan, with The B. F. Goodrich Company since 1928, has been named western district manager of the company's national sales and service division with headquarters in Chicago. The appointment was announced by G. E. Brunner, general manager of that division. Callahan succeeds Walter W. Thomen, western district manager since 1939, who has been called to active duty as a major in the office of the Chief of Ordnance, War Department.

Cremins Gets New Appointment

Appointment of E. J. Cremins as assistant regional manager for the Pittsburgh area has been announced by K. B. Elliott, Studebaker vice president. G. E. Read is the regional manager.

Cremins' duties will consist of counseling and aiding dealers in all phases of their operations under today's unusual conditions. He also will assist interested Studebaker dealers in seeking war production assignments.

ANOTHER EXAMPLE OF WHAT A BETTER TRUCK CAN DO

There's *No Detour* on Victory Road

White

The Army calls them its "go anywhere" trucks—White prime movers, half tracs and scout cars. They are the "trucks you don't steer—you aim." If necessary, they can leave the traveled road and cross the roughest terrain men can ride over.

They're *another example* of the importance of trucks in war. Trucks with the power and dependability that have made White Trucks the answer to the world's hardest truck jobs. As in all commercial fields, White quality makes it possible to rely on transportation equipment that does unusual jobs unusually well.

To conserve the nation's truck supply, as well as to protect yourself against the future, investigate now the White Cooperative Plan of Truck Conservation—a definite method of prolonging truck life and conserving critical materials.

THE WHITE MOTOR COMPANY, CLEVELAND

Builders of U.S. Army Scout Cars, Half-Tracs, Prime Movers and Cargo Trucks, the complete line of Super Power Trucks and Tractors, City and Inter-City Coaches, Safety School Buses and the Famous *White Horse.*

FOR MORE THAN 40 YEARS THE GREATEST NAME IN TRUCKS

TO KEEP 'EM ROLLING ... LONGER!

The parts you *conserve* on the road, mean *extra parts for Uncle Sam* on the fighting front! Take good care of your present parts and equipment, to keep 'em rolling *longer.* You can be thankful if your heavy-duty valves, pistons, sleeves and bearings were made by Toledo—for Toledo *quality* represents more miles of service between overhauls—less parts wear per mile—more active time on the road, transporting the goods of war for America and our Allies!

Thousands of fleet owners the country over, are putting the conservation idea into daily practice, by joining the *U. S. Truck Conservation Corps* of the Office of Defense Transportation. Getting full measure of service from vital parts, by carrying out its pledge of careful driving habits, frequent mechanical inspections with necessary adjustments and minor repairs. There are official *U. S. Truck Conservation Corps* membership stations in your city.

Remember—new Toledo heavy-duty parts are still being manufactured for fleet operation, where definite need is indicated. But today *conservation comes first.* Help us help Uncle Sam!

The Complete TOLEDO Line Includes:

Valves...Pistons...Piston Pins...Cylinder Sleeves...Sleeve Assemblies...Engine Bearings...Connecting Rods...Water Pumps and Parts...Tie Rod Ends... Chassis Bolts and Bushings...Shackles... Independent Front Wheel Suspension Parts

TOLEDO

THE TOLEDO STEEL PRODUCTS COMPANY
TOLEDO, OHIO, U. S. A.

FOR VICTORY BUY U.S. WAR SAVINGS BONDS AND STAMPS

Warehouses: Atlanta · Boston · Chicago · Cincinnati · Cleveland · Dallas · Denver · Detroit · Indianapolis Jacksonville · Kansas City · Memphis · Minneapolis · New York · Oklahoma City · Omaha · Philadelphia Pittsburgh · Richmond · St. Louis · Wichita · Los Angeles · San Francisco · Portland · Seattle

CCJ QUIZ

by ROBERT F. BAHL

(Correct answers on page 85)

This month we have a "textbook" for our CCJ Quiz students. It's the Office of Defense Transportation's booklet on preventive maintenance, and it's entitled "America's Trucks—Keep 'em Rolling". Uncle Sam already has mailed copies to more than 2,550,000 truck owners from coast to coast. Your assignment is to secure a copy of the booklet, read it carefully, and then answer these ten questions. You should have no trouble scoring 100 on the basis of 10 points for each correct answer.

1

The first question, naturally, asks you to tell what is meant by "preventive maintenance."

a. Making sure that the truck passes state inspections.
b. Safety precautions to prevent accidents.
c. Thorough inspection at regular intervals to detect troubles before they cause damage.
d. Rotation of tires.

2

Preventive maintenance as outlined in the ODT booklet calls for regular inspections—

a. Every day.
b. Every 500 miles.
c. Every 1000 miles.
d. Four times a year.

3

Any adjustments made under the preventive maintenance program should be made—

a. By an "official" U. S. Truck Conservation Corps Station only.
b. In accordance with the truck manufacturer's recommendations.
c. By the same mechanic each time.

4

Another important part of any intelligent preventive maintenance plan is a "Driver's Report," to be turned in by the truck driver—

a. Every day.
b. Once a week.
c. Every 1000 miles
d. Once a month.

5

In its program of truck conservation, the government asks especially for the cooperation of—

a. the owner of one or two trucks.
b. the owner of a dozen or so trucks.
c. the very large fleet owner.

6

Supposing you are engaged in tractor-trailer operations, how often should the trailers be inspected?

a. As often as the trucks.
b. Twice as often.
c. Half as often.
d. Every 3000 miles.

7

Repair parts are becoming increasingly difficult to obtain. Therefore, Uncle Sam advises you—

a. to put your truck in A-1 condition as fast as you can before parts stocks become further depleted.
b. to conserve repair parts by waiting until a part is completely worn out and unserviceable before you replace it.
c. to buy a stock of commonly used parts and hold them for future use.

8

This is war. Load your truck to capacity, your government says, BUT, don't overload. An overload of 50 per cent on your tires will decrease the mileage obtainable by—

a. 10 per cent.
b. 25 per cent.
c. 50 per cent.
d. 60 per cent.

9

Providing something to aim at, the ODT tells us that trucks have been known to run for as many as—

a. 500,000 miles.
b. 750,000 miles.
c. a million miles.
d. two million miles.

10

Once you have signed the pledge to "keep 'em rolling" by preventive maintenance, you are then entitled—

a. to a Preference Rating of A-10 on all repair parts for your truck.
b. to display a red, white, and blue Conservation emblem on your truck.
c. to obtain recaps or retreads for your tires.

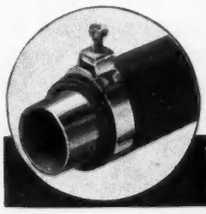
DIAMOND T Cargo Trucks and Half-Tracs *for our country's fighting men*

EQUIPPED WITH

WITTEK NOC-OUT HOSE CLAMPS

Speeding over the roughest ground, climbing steep embankments and traveling through the deepest sand and snow and muck, these modern military vehicles, manufactured by Diamond T Motor Car Company, are equipped with Wittek Noc-Out Hose Clamps.

Identified with the automotive and trucking industries for more than 20 years, Wittek Noc-Out Hose Clamps have established and maintained a standard of quality that guarantees a uniform perfect seal on all hose connections for busses, tanks, trucks and tractors.

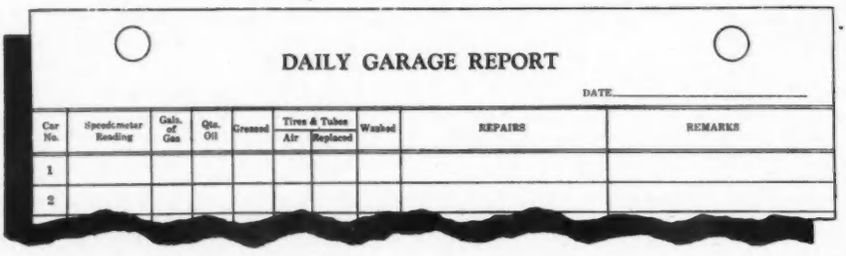


THE STANDARD OF THE INDUSTRY

WITTEK *manufacturing co.*
4305-15 WEST 24TH PLACE, CHICAGO, ILLINOIS

BAKERY'S SAVINGS STUNTS ENLISTS DRIVER SUPPORT

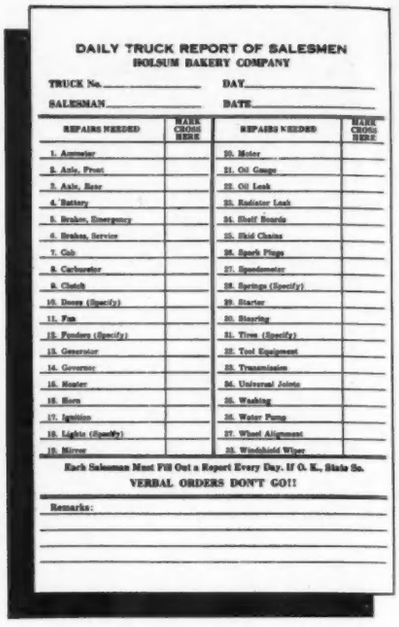
(CONTINUED FROM PAGE 43)



DAILY GARAGE REPORT

DATE_____

Car No.	Speedometer Reading	Gals. of Gas	Qts. Oil	Greased	Tires & Tubes Air	Tires & Tubes Replaced	Washed	REPAIRS	REMARKS
1									
2									



DAILY TRUCK REPORT OF SALESMEN
HOLSUM BAKERY COMPANY

TRUCK No._____ DAY_____

SALESMAN_____ DATE_____

REPAIRS NEEDED	MARK CROSS HERE	REPAIRS NEEDED	MARK CROSS HERE
1. Ammeter		20. Motor	
2. Axle, Front		21. Oil Gauge	
3. Axle, Rear		22. Oil Leak	
4. Battery		23. Radiator Leak	
5. Brakes, Emergency		24. Shelf Boards	
6. Brakes, Service		25. Skid Chains	
7. Cab		26. Spark Plugs	
8. Carburetor		27. Speedometer	
9. Clutch		28. Springs (Specify)	
10. Doors (Specify)		29. Starter	
11. Fan		30. Steering	
12. Fenders (Specify)		31. Tires (Specify)	
13. Generator		32. Tool Equipment	
14. Governor		33. Transmission	
15. Heater		34. Universal Joints	
16. Horn		35. Washing	
17. Ignition		36. Water Pump	
18. Lights (Specify)		37. Wheel Alignment	
19. Mirror		38. Windshield Wiper	

Each Salesman Must Fill Out a Report Every Day. If O. K., State So.
VERBAL ORDERS DON'T GO!!

Remarks:

Two Holsum forms used to check daily condition of its fleet. Note instruction to driver-salesmen at bottom of form at right. This form measures 5½ x 8½; form above is 9½ x 14

Our mechanics and driver-salesmen understand the necessity for doing what we are to make tires last longer. They understand too, that what we are doing is also making their jobs more secure and, thus, they enlist their voluntary cooperation. These actual demonstrations impress our salesmen, promote mare careful driving and, that way, contribute greatly to longer tire mileage.

Since we started this plan in June, 1942, we have taken out enough foreign matter to bring premature road failures to nearly all our tires. Tire accidents have lessened. Also, we now feel assured that this service will help to double, if not treble, our tire mileage by greatly increasing the percentage of carcasses that can be recapped. After this plan was well under way, another tire saving plan was developed.

The Holsum Curber's Club

We realized that curb rubbing had to be stopped. Mere written or verbal instruction did not stop this ruinous practice. We had to eliminate this abuse to increase the percentage of tires that could be recapped.

First, we painted a white circle around the side walls, as we thought it was the best way to detect curb rubbing and to stop it. Then we put the idea before our sales personnel upon the proposition that if tires become unavailable, their jobs and our business would be jeopardized, perhaps completely lost. We pointed out that such a program also would contribute effectively to the war effort and that other fleet operators would adopt a similar plan.

To enforce the ban on curb rubbing, our management put teeth in it by imposing a fine of ten cents for the first offense, 25 cents for the second, 50 cents for the third and on up to two dollars during each 30-day period. At the end of the month, the program begins all over again. The men understand that violations up to the two-dollar point might cause the violators to look for another job.

And so the Holsum Curber's Club came into being. All driver-salesmen, mechanics, and other members of the organization are voluntary members. While we did not originate the idea of white side walls, the idea of forming a Curber's Club did originate with us, so far as we know.

Up to this time, all driver salesmen have cooperated splendidly. Only one of them has been guilty of two violations in any one month. By dramatizing this program in this manner the boys take a pride in cooperating. By enlisting each driver as a club member, we earn his loyal support. Indifference or even resentment, which sometimes follow arbitrary rules, do not happen in this kind of cooperative service plan.

In this emergency we think, it is important to do everything possible to preserve tires for recapping again and again. Age contributes partly to carcass weakness. As tires wear faster on city operated trucks, we use the recaps mostly on the city units. If any hidden weakness does exist in a newly recapped tire, its chances for more months of service are greatly increased on city deliveries, as there are no long trips at sustained speeds to overheat or overwork it. By the same token new tires are used mostly on the rural delivery trucks.

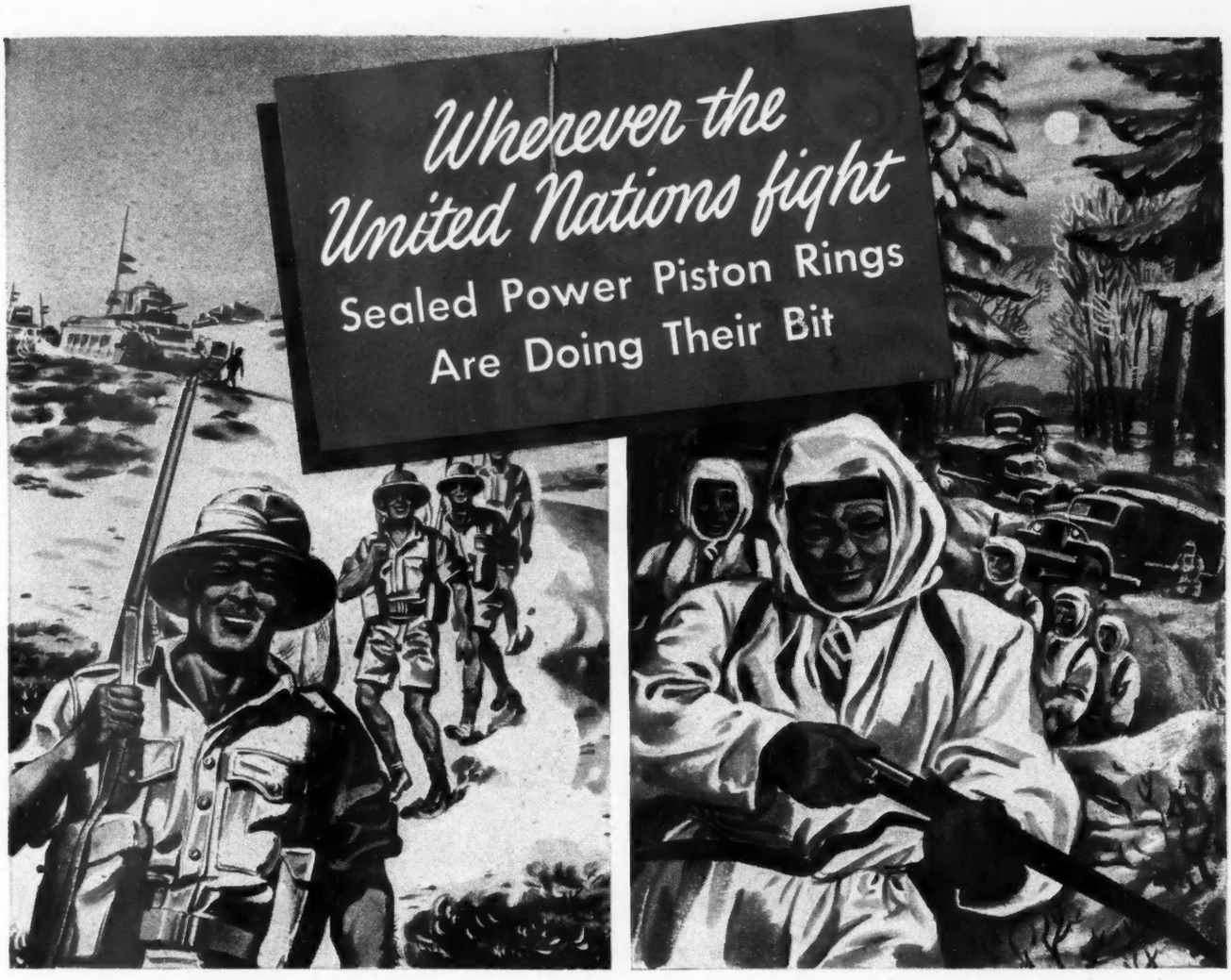
We are obtaining 10,000 miles, or better, on many of our recapped tires. But what is of even greater importance, the percentage of carcasses that can be recapped the second time is increasing in a very satisfactory manner.

We believe now, and quite beyond doubt, that carcass life is increased by the services described above, combined, of course, with accurate maintainance of recommended pressures. Needless to say, the latter practice prevents ply separations, chafing between plies and carcass breaks by reducing excessive flexing. Proper inflation on duals is maintained to prevent the tires from damaging each other by rubbing.

Cupping must be avoided at all costs. We find this waste is inexcusable on our units—preventable by the simple process of keeping the wheels in proper alignment and proper inflation. Therefore, we bend over backwards to keep the wheels on all our trucks in proper alignment and check tire pressures every day. Other practices employed to prolong tire life are: uniform load distribution and a 40 miles per hour speed limit.

END

(Please resume your reading on P. 44)



In marine engines for submarines and torpedo boats and transports and freighters!

In bombers and fighters!

In refrigeration and air conditioning equipment!

In tanks and trucks and jeeps!

In mobile radio sets!

In fact, wherever power is applied to warfare Sealed Power Rings and Pistons and Sleeves are functioning.

SETS FOR CIVILIAN USE TOO

Trucks are a more precious investment than ever . . . and entitled to the very best piston rings. That means Sealed Power Sets—individually engineered for each make of engine. Smart fleet operators find that they save gas, save oil, save engine wear with Sealed Power Piston Rings.

You can't buy finer piston rings—at any price.

SEALED POWER CORPORATION, Muskegon, Mich.
***In Canada:* Windsor, Ont.**

FOR ALL POPULAR MAKES OF CARS AND TRUCKS

LET'S GO! U.S.A. KEEP 'EM FLYING!

Piston Rings, Pistons, Pins, Valves, Sleeves, Expanders, Bolts, Bushings, Water Pumps, Tie Rods, Front End Parts.

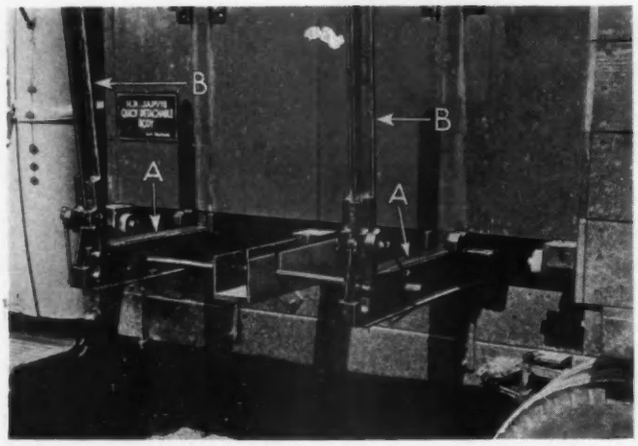


Fig. 1. A Jarvis demountable body section being moved to the right for unloading. Take-off arms on this side stay up as other set is in use

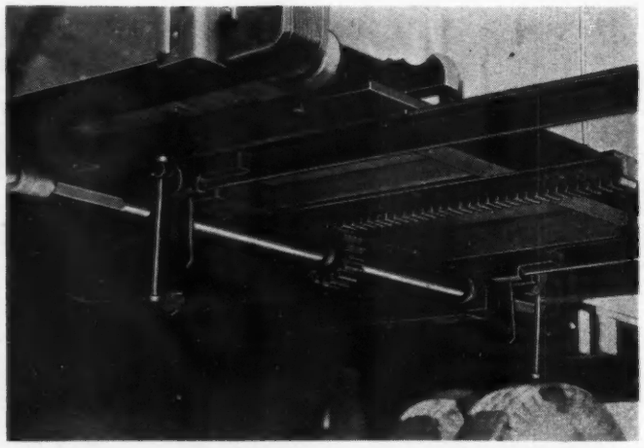


Fig. 2. Underbody view showing demountable body operating mechanism on unloading side. Body is moved right about two feet on take-off arms

A DEMOUNTABLE, SECTIONAL BODY

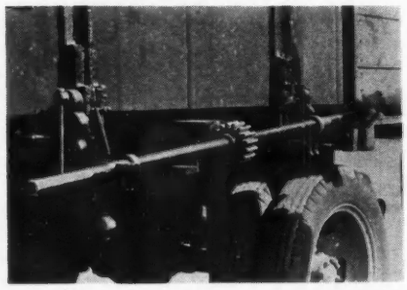


Fig. 3. Detachable pinion gear shaft being placed in position for unloading body section

Speeds loadings and unloadings, reduces freight handling and permits interchange of bodies and body types on one chassis

Fig. 4. Truck equipped with Jarvis demountable sectional body locked in position for delivery

A NEW type of demountable truck body has been developed by H. R. Jarvis, San Francisco, Cal., to meet the need for expediting freight movement by reducing loading and unloading time at the receiving and shipping platforms. It is a sectional body, adaptable to any make or type of chassis and body requirement. The demountable mechanism is built partly into the chassis and partly into the body. Both portions are simple in construction and operation.

The chassis part, visible in Fig. 1, consists essentially of tracks, A, upon which the body rests while in transit, and on which it slides when being mounted or demounted. Folding extensions of the tracks, known as take-off arms, B, Fig. 1, act as skids when the body is being mounted or demounted. When returned to their vertical position, they also act as locks, holding the body secure while in transit.

The body part of the demountable mechanism consists principally of a rack drive, located at the bottom and shown in Fig. 2. The propelling part of this drive is a detachable pinion gear, shown in Fig. 3. The body also is equipped with casters to permit movement and steering on floors and platforms.

The procedure in actual operation basically is as follows: The operator places detachable gear shaft into extension brackets, drops take-off arms

(TURN TO PAGE 72, PLEASE)

Fig. 5. Body moved two feet to right. Take-off arms are supported to simulate loading platform

...Link THE BYWAYS WITH THE HIGHWAYS —TO AMERICA'S FIGHTING FRONTS!

TODAY IN AMERICA over 46,000 communities are cut off from every means of freight transportation with one exception—motor trucks! Yet today many of these rail-less towns and villages are busily engaged in speeding the war program, contributing effectively to our most urgent national need.

Bridging this gap, endless fleets of fast, flexible motor carriers, with time-table regularity, are moving the products of mine and factory, forest, farm and mill to teeming centers of industry, bustling rail heads and swarming docksides.

And Federal Trucks are shouldering their share of this vital task... with their huskier, all-truck construction benefitting both their owners *and* the stepped-up program of war production.

Federals are built for war-geared performance... and they can take it, too—because back of Federal Truck design is a specially *balanced* type of construction—where motors, clutches, transmissions, rear axles, running gear, chassis frames and springs are scientifically coordinated—one with the other—to insure the utmost in functional efficiency and reliability. Federal's time-tested qualities and unexcelled dependability are establishing records not only in Industry but also in the Armed Forces of Uncle Sam.

FEDERAL MOTOR TRUCK CO., DETROIT, MICHIGAN

Rugged Federal dump trucks are built "to take it" in highway construction work.

Federal reliability and economy are "buy" words with long-haul fleet operators.

Federal builds 'em strong and husky for important U. S. war time requirements.

★ ★ ★ FEDERAL *Trucks* ★ ★ ★

SINCE 1910 . . . KNOWN IN EVERY COUNTRY—SOLD ON EVERY CONTINENT

A DEMOUNTABLE, SECTIONAL BODY

(CONTINUED FROM PAGE 70)

on platform and slips on a ratchet lever on either end of the gear shaft. As the lever is manipulated, with a downward motion, the gear engages the rack under the body and starts the section moving to the platform. The loaded body slides onto the platform and is pushed aside to permit reloading. Another loaded body section is then pushed onto the take-off arms and the operator moves the ratchet lever in the opposite direction. The body slides over the take-off arms and tracks until the rack reaches its full travel across the chassis. The take-off arms are raised, pushed up against the body and locked in position. The demountable pinion gear is then removed and stored in the tool box or in the rear of the cab.

A few of the various advantages claimed for this type of demountable body construction are:

1. Considerable time saving in loading and unloading, thereby enabling each vehicle to haul more pay loads per truck, per day.
2. Permits wider variety of loads to be handled per truck. Refrigerated sections can be hauled with general freight or tank sections.
3. Loads are practically tamperproof.
4. Minimum handling of freight insures minimum possibility of loss, damage or breakage in handling between destinations.
5. Breaks up bottle-necks in loading and unloading, which can be handled between loads or at shipper's convenience.
6. Quick replacement of body sections in case of damage.
7. Unusual chassis accessibility in case of repairs.

Comparative tests in handling of freight with this type of body, as compared with the conventional, permanent truck bodies have developed many interesting possibilities. The time factor alone, however, has merited much attention. It is estimated, for example, that it takes 8 hours to unload and reload a vehicle with 20 tons of merchandise with the conventional, permanent truck body. With the Jarvis Universal, Demountable, Sectional Body, the same job would take approximately one and one-half hours.

One study of loading and unloading operations shows that eight separate handlings were required in forwarding merchandise from consignor to consignee for delivery between inter-city points. First, the merchandise was selected and stacked on the loading platform at the shipper's warehouse. Next, the merchandise was loaded into a local delivery truck. Then the merchandise was delivered to the terminal of an over-the-road carrier. This merchandise was reloaded by the second carrier.

Upon arrival at its destination, the merchandise was unloaded onto a platform. Next, a local pick-up truck came and reloaded. Delivery then was made to consignee's platform. Final handling was made by consignee in hand trucks to point of storage. In this study, it was estimated that it cost $1.35 per ton to handle merchandise.

With the Jarvis body, unloading of the merchandise was possible direct

(TURN TO PAGE 74, PLEASE)

available for
IMMEDIATE DELIVERY

OPACO SAFETY-FILL Patents Pending NOZZLE

SAVES { GAS TIME MONEY

by shutting off automatically when tank is filled

FLEET OPERATORS can NOW get "Safety-Fill" Nozzles. Prevent spilling and wasting of gasoline . . . speed up servicing by equipping your pumps with "Safety-Fill" Nozzles.

SHUTS OFF AUTOMATICALLY when gas in the tank reaches the tip of the nozzle. This eliminates overflowing and wasting gasoline.

REDUCES FIRE HAZARD — Gasoline spilled on or around a truck endangers equipment which can't be replaced. "Safety-Fills" avoid this danger.

FASTER SERVICE — Gas tank can be filled at maximum speed. This is a big time saver during rush periods.

NO PEEK! NO LISTEN! NO GUESS! Ideal for servicing at night and in noisy garages and terminals.

"Safety-Fill" Nozzles will soon pay for themselves. Fleet operators such as Borden Company, Yellow Cab, Checker Cab, A & P and N. J. Bell Telephone use "Safety-Fills." Write for FREE Bulletin and latest prices! Use convenient coupon at left.

FREE!

Fill in – Tear out – Mail Today!

OPACO DIVISION,
AMERICAN MACHINE and METALS, Inc.
East Moline, Illinois

Please send me FREE Bulletin and latest prices on OPACO Safety-Fill NOZZLES.

Name .....

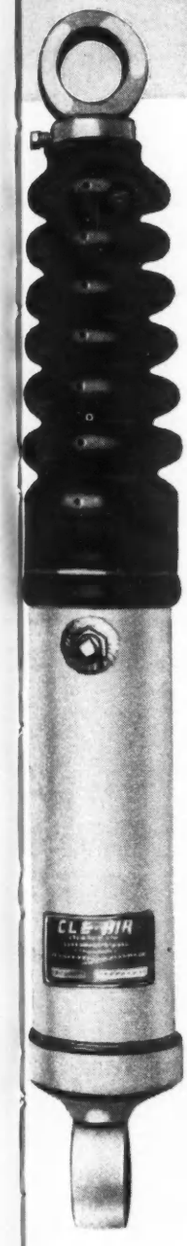
Address .....

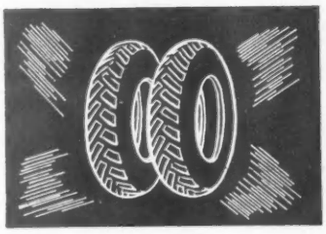
City ..... State .....

OPACO
DIVISION
AMERICAN MACHINE AND METALS, INC.
EAST MOLINE, ILLINOIS

6-WAY
FLEET PROTECTION
WITH CLE-AIR SHOCK ELIMINATORS

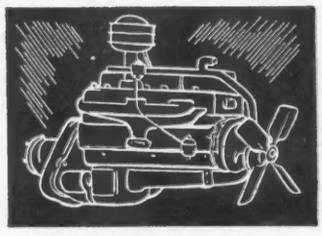
★ "In action" on the home front for the duration, America's bus and truck system *must* operate at peak efficiency. Cle-Air Shock Eliminators contribute to this fleet conservation program in six major ways:





1. THE TIRES

Cle-Air Shock Eliminators prevent the bouncing on and off the road that buffs off the rubber. These shock absorbers also eliminate damaging "sidesway scuff" to tires because they put an end to all rolling and swaying.

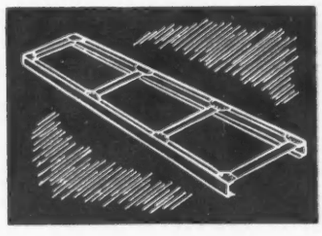


4. THE MOTOR

Road shocks and vibration cause numerous motor troubles. While Cle-Air Shock Eliminators cannot prevent normal motor wear, they do eliminate all expensive maintenance which is caused by unchecked shock and recoil.

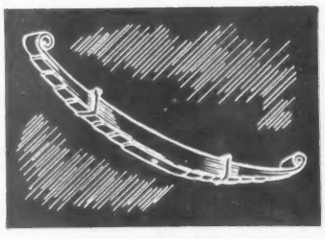
2. THE BODY

Rigidly constructed bodies cannot take up the weave of the chassis and the ceaseless jarring of road shocks. Cle-Air, by absorbing shock and eliminating chassis weave, prevents rattles, loose joints, and many other types of body deterioration.



5. THE FRAME

Damaged or broken frames are a very costly source of maintenance. You will seldom be faced with this repair item if you use Cle-Air Shock Eliminators, because these units protect the frame from even the harshest road shocks.



3. THE SPRINGS

Because springs must carry loads of greatly varying weights, breakage is not uncommon. Cle-Airs reduce spring breakage because their hydraulic control of recoil affords absolute spring control under all kinds of road conditions.

6. THE DRIVER

By taking the "drive" out of driving, Cle-Air units reduce driver fatigue, thereby helping to insure better and safer driving records.—They also increase bus patronage because they provide supreme riding comfort at all times.

Write for your copy of "Meet The Judge." This booklet, full of illustrations, diagrams and case histories, tells how Cle-Air units will protect your fleet.

THE CLEVELAND PNEUMATIC TOOL CO.
AUTOMOTIVE DIVISION ★ CLEVELAND, OHIO

A DEMOUNTABLE, SECTIONAL BODY

(CONTINUED FROM PAGE 72)

from consignor's stock and to have it sealed on the spot as a precaution against tampering or unnecessary handling. Transfer of the body section to the over-the-road carrier's terminal and subsequent pick-up and delivery to consignee's platform was possible without any handling of the merchandise. Also, consignee actually could move the body section up on his freight elevator, direct to distribution point for final unloading without the use of hand trucks. With two handlings, instead of eight, hauling costs and completed delivery time can be reduced appreciably.

In another instance it was pointed out that, in most cases of over-the-road operations, it was customary to load trucks in the evening. Despatching schedules were timed so that arrival at the most distant point would be effected the following morning. At the loading platforms of the intermediate towns served, a crew was maintained for handling merchandise loadings and unloadings. Usually, they reported on the job at the trucks' expected arrival time. When the trucks experienced any delays, due to tire trouble, mechanical difficulties or adverse weather conditions and, as a result, would arrive late, the crew had to be paid for both the productive and the unproductive time.

With the Jarvis body, the driver could unload and reload waiting sections, single-handed if necessary, in a short time and at a considerably reduced cost.

Where trucks operate in conjunction with rail transportation, loading and unloading of merchandise in these demountable bodies could be accomplished in one-fourth of the time usually required with the permanent type truck bodies. The same possibility exists in delivering freight for reshipment by ships or airplanes.

The accompanying illustrations show side unloadings, but constructions parallel to the chassis can be employed for end loading. Incidentally, on all side unloading installations, body sections can be handled from either side. No restrictions are made as to styles or types of bodies. It is claimed than any body style or size desired can be adapted to this demountable, sectional unit.

A recent cross-country run of the truck illustrated, with numerous loadings and unloadings en route, demonstrated that the Jarvis demountable. sectional bodies are rigid, sturdy and can successfully withstand any weather or road condition.

3 Out of 4 Are Pounding and Scuffing the Life Out of Truck Tires!

All other tire saving precautions are completely useless if wheels are misalined or unbalanced! Yet out on the highway what do you see? 3 out of 4 trucks with wobbly, misalined and unbalanced wheels pounding and scuffing 20% to 50% out of the life of the tires! And remember, wobble and vibration cause excessive parts wear, too!

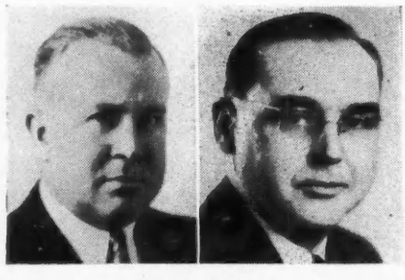
GET BEAR EXPERT ADVICE

Pioneers in Wheel Alinement and Balancing, we can show you how to get the MOST MILES OUT OF YOUR TIRES! Many of you are entitled to priorities and can secure needed Bear Equipment. Be sure to investigate the Wheel Alinement Tester that makes a test a minute as your trucks drive in or out of the garage.

INSIST ON BEAR SERVICE

Thousands of shops have Bear precision aliners and dy-namic balancers. For efficient, quick, economical service . . . don't take chances . . . see the man with the Bear sign out in front. If you wish names of Bear operators, in any locality or localities, we'll gladly send them to you. Write Bear Mfg. Co., Rock Island, Illinois.

BEAR DY-NAMIC WHEEL BALANCER
The most efficient method of wheel balancing. The only machine with the flashing Neon Eye! Balances wheels at all speeds!
KEEP AMERICA'S TRANSPORTATION ROLLING... Safely and Economically!
BEAR WHEEL ALINERS
Today the need for Bear precision adjustments is more important than ever before. Precision ends Victory, eliminates the waste of comebacks and do-over jobs! An outfit for every requirement!
BEAR ALINEMENT TESTS
The only sure way to test wheel alinement of all vehicles! Quickest method of testing alinement . . . simply drive the vehicle over the tester!
BEAR SHIMMY DETECTOR
Indicates the need for wheel balancing without removing wheels from vehicle! Shows how unbalanced wheels cause shimmy . . . and shimmy causes wear!
BEAR
THE GREATEST NAME IN SAFETY TEST AND CORRECTION EQUIPMENT



The Midland Steel Products Co., Cleveland, Ohio, announces the election of R. C. Artner (left) as vice-president in charge of all financing and accounting. He formerly held the position of treasurer. William A. McKinley (right) was elected vice-president in charge of manufacturing and sales. Formerly he was chief sales engineer. Both men have been associated with Midland since its organization

The Best Defense Against Carbureter Trouble . . .

the CARTER CERAMIC★ FUEL FILTER

Especially designed by leading carbureter engineers to prevent unnecessary carbureter service.

Assures a steady flow of fuel free from dirt, lint, and all harmful foreign matter.

Order from your Carter Distributor or Jobber.

★ *A specially prepared clay — similar to that used in the filtering of drugs — an unusually efficient filtering substance.*

CARBURETER
Registered in U. S. Patent Office
PRODUCTS OF PRECISION

Automotive Electric Association Approved Service

a f c

CARTER CARBURETOR CORPORATION . . . St. Louis, Missouri

Division of American Car and Foundry Company

WIDE-BASE RIMS IN REVIEW

(CONTINUED FROM PAGE 27)

Claims of Advocates

Increased tire mileage is claimed for the use of wide-base rims by the National Wheel & Rim Assn. The association makes the following claims:

"Tire life can be increased beyond the normal expectancy by the simple practice of oversizing the rim without changing the tire. As much as 50 per cent additional tire life can be gained by the use of wide-base rims. They will definitely increase tire mileage with no increase in inflation or rated carrying capacity.

"Wide-base rims relieve strain and pinching of beads; provide greater air volume; afford maximum tread contact on the road; assure straighter sidewalls that minimize bulging and consequent breakdowns.

"The use of wide-base rims will increase the air volume space, and provide more air volume directly under the load, resulting in increased area of road contact, thereby affecting traction, braking and riding qualities. They straighten the sidewalls, resulting in greater tread contact on the road, less tread cracking, fewer rim failures and fewer blowouts.

"Wide-base rims help to keep carcasses sturdy and in suitable condition to take repeated retreads, thereby increasing tire mileage."

Availability of Wide-Base Rims

With the restrictions that exist on steel, fleet operators will naturally wonder how these restrictions affect the availability of steel rims.

The National Wheel & Rim Assn., whose members are manufacturers and distributors of wheels and rims, asserts that at the present time fleet operators desiring to purchase wide-base rims or wheels should have no difficulty in getting them.

The association also points out that in many fleets it will be possible to switch wheels of different size trucks, using each size that is taken off the larger vehicle on the next smaller one and, finally, junking only wheels in the 30x5 size. In this way the purchase of new rims can be kept down to the minimum.

Fleet Operators' Evidence

Fleet operators are naturally interested in the benefits experienced by other operators who have used wide-base rim equipment. The table on page 27 lists the returns received from a group of fleet operators from various sections of the country. It lists the tire sizes, rim sizes and amount of increased tire mileage which they have experienced by the use of wide-base rims. The evidence is favorable to wide-base rims, and shows from 10 to 50 per cent increase in tire mileage.

Following are additional comments from the operators listed, which were not incorporated in the table:

Operator No. 1 in the table says: "We have been running full capacity loads or overloads on all our trucks, which have been changed over to wide-base rims. This has been mainly possible because we are having fewer blowouts occurring on the sides of tires near the bead. The wide-base rims cause less flexing in the side-

(TURN TO PAGE 78, PLEASE)

NO BRAKE OR CLUTCH JOB TOO BIG FOR THE Chicago "APEX"

TESTED AND APPROVED FOR U. S. ARMY AND NAVY USE

THIS big, husky, rugged rivet setting machine fills the bill for truck fleet operators. Actually, it's a complete brake relining and clutch refacing department in itself. Every stage of the work; delining, drilling, countersinking, riveting, straightening and grinding is performed without the operator leaving the machine. Equipped with every known labor-saving feature. Handles any size job . . . passenger car, truck, bus, army transport and airplane brakes using tubular rivets . . . in less time and with less effort than any other foot power machine made.

QUICK DELIVERY

APEX WORLD'S FINEST FOOT POWER RIVETING MACHINE
RELINES BRAKES—REFACES CLUTCHES WITH ORIGINAL FACTORY ACCURACY

★ SET BACK DELINER . . . Full vision clearance. Motionless, adjustable knockout punch. Built-in old rivet collector.
★ LOW HEAD . . . Specially designed to facilitate work even on small diameter bands.
★ ADJUSTABLE ANVIL . . . Quickly set for any length rivet.
★ DEEP THROAT . . . For easy working.
★ SHOE STRAIGHTENERS . . . Built in.
★ DRILLING UNIT . . . Two-speed, V-belt drive, no hand pressure required, foot operated.
★ GRINDING UNIT . . . Fully machined, large table, 6¼" cushioned abrasive drum.
★ CAPACITY . . . Up to ¼" diameter tubular or solid rivets.
★ POWERFUL . . . New toggle lever design.
★ QUIET . . . No noisy clatter.

WRITE FOR CATALOG DESCRIBING THE COMPLETE "CHICAGO" LINE

Chicago Rivet AND MACHINE CO.
9616 West Jackson Blvd., Bellwood, Ill.
Chicago Suburb

No. 1
PROTECTION
REFRIGERATION
No. 4
No. 3
No. 2
Pepsi-Cola
LEADING BODY BUILDERS
Bodies Illustrated Built by—
No. Built by Location
1 Edward G. Budd Mfg. Co. Philadelphia, Pa.
2 Enterprise Wheel & Car Corp. Bristol, Tenn.-Va.
3 Trailer Co. of America Cincinnati, O.
4 McCabe-Powers Auto Body Co. St. Louis, Mo.
5 Farrell Mfg. Co. Joliet, Ill.
6 Watkins Body Corp. Buffalo, N. Y.
7 Indiana Body Co. Richmond, Ind.
8 Quaker City Iron Works Philadelphia, Pa.
Hundreds of progressive Body Builders rely upon Quality Hansen Hardware—the Hardware for Hard Wear.
TO meet the exacting specifications as to appearance and performance, the Body Builders listed used Quality Hansen Hardware on the tanks, trucks and trailers illustrated. Compact Flush Handles to conserve load space—Lug Leverage Locks to hold doors tight-shut—Rotary Door Locks to make two doors as solid as one—are among the Hansen products used on the bodies shown.
Hansen makes a complete line of Commercial Body Hardware, including — Slamming Locks, Slam-and-Take-up Locks, Cab Door Locks, Window Regulators, Leaf-Type and Continuous Hinges, Sliding Door Locks—for various types of custom-built bodies. Send for the latest Hansen Catalog, if you do not have one.
A. L. HANSEN MFG. CO.
5047 RAVENSWOOD AVE., CHICAGO, ILL.
USE QUALITY HANSEN HARDWARE
No. 7
Indiana Body Co.
No. 6
No. 5
No. 8
TEXACO
HANSEN
HARDWARE for Commercial Bodies

WIDE-BASE RIMS IN REVIEW

(CONTINUED FROM PAGE 76)

walls, thus cutting down on the number of blowouts. We have reached these conclusions after 14 months of operations, in which 40 wheels with wide-base rims were tested."

Operator No. 2: "We estimate the rim oversizing of an 8.25x20 gives us about 30 per cent more mileage and a carrying capacity almost equivalent to a 9.00x20. The facts are that we have been getting practically the same mileage on an 8.25x20 on a tractor with 8-in. rims that we would on a 9.00x20 with the same size rims. We have used these wide-base rims for over a year and find that we are getting additional miles from our tires, and are not having any more rim trouble. Part of this rim trouble was caused by the fact that the tire manufacturers have gradually increased the size of the tire; also, that we have discovered additional miles in casings where excessive air up to 85 or 90 pounds was desirable. When you put that much air in a tire and haul a capacity load, the oversized 8.25 tire, especially the so-called 28 size, will break out the 7-in. rim. Until we started to use 8-in. rims on these 8.25 tires we were having as high as six rim failures to one tire failure."

Operator No. 4: "My experience over a period of three years has proved that tires mounted on wide-base rims stay much cooler and not only minimize the danger of blowouts, but also increase tire mileage."

Operator No. 5: "We have used wide-base rims on some of our tires for about 30,000 miles, and it looks like we can expect about a 15 per cent increase in tire life."

Operator No. 6: "Our experience has proved that the wide-base rim gives us a great deal more in tire mileage."

Operator No. 7: "By changing to wide-base rims we have about doubled our tire mileage, and it has been well worth the money spent to make the change-over."

Operator No. 8: "Formerly we used 12.00-18 tires on 9-10 in. rims and we were having plenty of trouble. Then we changed to 11.00-19 tires, using 11 in. rims, and on a comparative basis, involving 8,000 tires of each size, we increased our mileage an average of 16 per cent with the smaller tires and wider rims."

Operator No. 10: "Over a year ago we changed to wide-base rims, and since that time we have had a noticeable increase in tire mileage and decrease in carcass failure. The additional cost of the larger rims has been more than offset by the saving in tire costs due to increased tire mileage. We are specifying the larger size rims on all new equipment as we feel that the new tire and rim combinations are more satisfactory and have been a very important factor in the reduction of our tire expenses."

Operator No. 11: "Before I made the change-over from 8-in. to 9-10-in. rims I had a great deal of trouble with lock rings breaking and tires blowing out. Since the change-over I have not blown a tire."

Operator No. 12: "We are glad to report an increase in mileage of from 30 to 40 per cent, and a marked decrease in blowout and other tire trou-

(TURN TO PAGE 80, PLEASE)

Interpretation of OPA Amendment No. 7 to Tire Rationing Regulations Revised.

The most common form of tire abuse is neglect of tire pressures. Safeguard your present tires and your right to new rubber with this practical Schrader plan for eliminating underinflation:

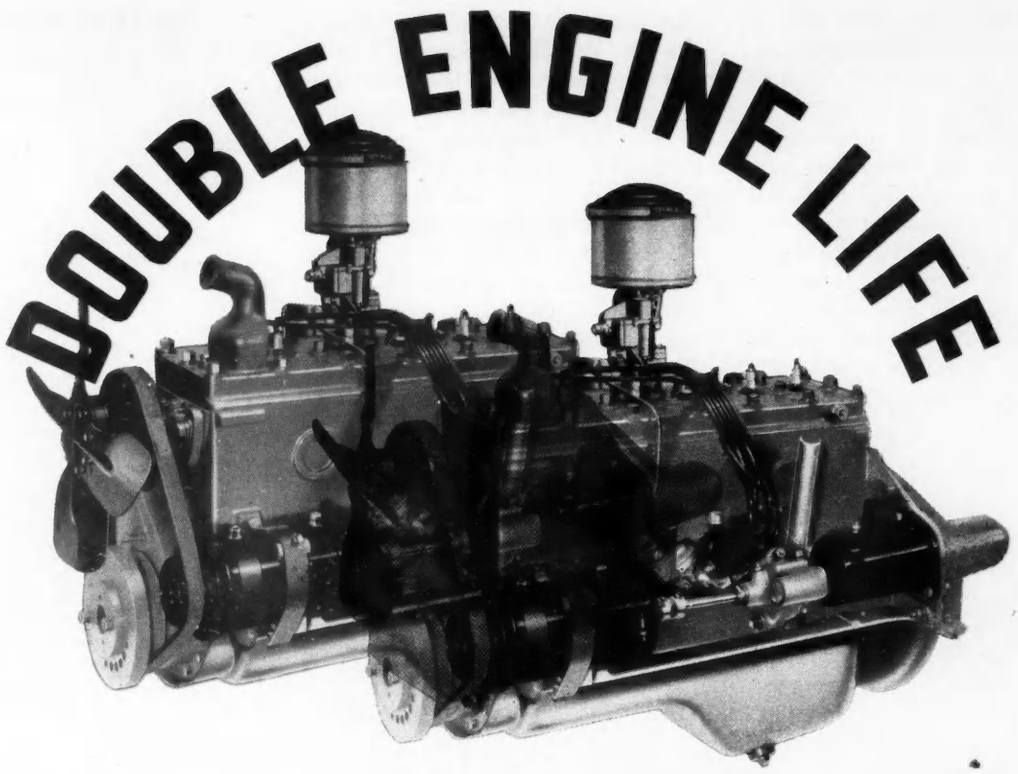
How to prevent flats

First, eliminate the possibility of valve leaks. Keep air-tight Schrader Caps screwed down tight on all tire valves. *Then the valves can't leak.* **Second,** check the *exact amount* of pressure loss with a Schrader Gauge. Do it regularly . . . after each day's run is not too often. **Third,** compare the pressure losses. When one tire continues to lose more air than its mates you know you have a puncture. *Repair the tube immediately before underinflation damages the tire.*

A. SCHRADER'S SON BROOKLYN, N. Y.
Division of Scovill Manufacturing Company, Inc.

Schrader
REG. U.S. PAT. OFF.
TIRE SAVING
PRODUCTS

KEEP 'EM ROLLING, KEEP PRESSURES ACCURATE



Free Engines of Power-Robbing Gums

● Conservation is the keynote of our War Effort. You can help conserve critical materials required for replacement parts by increasing the service and life of all existing motorized equipment.

RISLONE will help because it absorbs and prevents gum formations that form on valve stems, in the guides, piston ring grooves and oil ring slots. When these moving parts are "free" to function properly, lost compression and power are restored. RISLONE assures a "clean" engine resulting in maximum power from fuel—reducing fuel and oil consumption. The regular use of RISLONE means less "time-out" for repairs—savings in operating and maintenance costs and in man-power hours required for other essential work.

SAFE BREAK-IN

A new or reconditioned engine will become a better power plant when RISLONE has been used during the "break-in" period. Added to the regular crankcase oil in the proportion of one quart of RISLONE to three quarts of the oil, normal operating speeds are permitted immediately. The high capillary attraction of RISLONE leads the regular oil into places where it cannot travel alone—keeps the regular oil free flowing and assures proper and adequate lubrication at all times. It has been used regularly for many years by fleet owners, bus and transportation companies and the Armed Forces —recommended by car factory engineers and engine builders.

For efficient operation of all internal combustion engines follow the Shaler "Tune-Up" Procedure described in our illustrated 64-page book, "Engine Performance." A copy will be mailed on request. . . . THE SHALER COMPANY, Waupun, Wisconsin, and Toronto, Canada.

RISLONE is available in five, fifteen, thirty and fifty gallon fauceted drums for shop use.—Lithographed packages for the consumers.

(CONTINUED FROM PAGE 78)

bles. We are now changing over our entire fleet of 81 trucks to wide-base rims."

A large oil refining company reports: "For a long time it has been our practice to specify the size rims when making purchases of truck and trailer equipment. It has been our experience that the use of the proper size rim for the tire specified, other factors considered, permits greater tire mileage effecting considerable savings. We have not recently made change-overs to wider base rims, as this has not been necessary due to specifications for the rims at the time the equipment was secured."

Comment from System Freight Service, Los Angeles, Cal., which did not specify tire sizes: "Our analysis has proved that in making this change-over we have increased tire mileage from 25 to 50 per cent on our trucks, and reduced the cost of tire maintenance by 50 per cent."

END

(Please resume your reading on P. 28)

SPARKS OF WAR

Spark plugs that fire hot and efficiently are serving Uncle Sam. Today's gasoline has lower octane rating. Good spark plugs, clean and properly gapped, get *all* the power out of this gas, saving precious fuel for fighting. It's up to you to help conserve spark plugs and gas. Here's how:

1. Emphasize the importance of cleaning and regapping spark plugs at regular intervals.
2. Handle spark plugs with care. *They are ammunition too!*
3. When plugs *must* be replaced, put in *good* plugs. But keep replacements to a minimum. Remember that most Edison plugs are going to war — and that comes *first.*

Edison DeLuxe Cleaner—cleans and prolongs spark plug life. Dim. 17½" high — 7 1/16" wide — 6¾" deep.

Edison
SPARK PLUGS

EDISON-SPLITDORF CORP., WEST ORANGE, N. J.

METRO MASTERS PARTS SALVAGE

(CONTINUED FROM PAGE 29)

clutches, generators, distributors, carburetors, regulators and other electrical units. Clutches are reconditioned completely and our mechanics, who specialize on this work, have shown exceptional ingenuity in their salvaging practices. For instance, if the clutch cover wears where the drive lugs come through, we rebuild this worn area by welding. Clutch fingers will wear at the edges. When this happens to one finger, instead of replacing it, we file all three fingers on the edge to equalize them. Then we adjust the clutch springs to the new height.

When the segments in the clutch disc wear, we simply reverse the segments and continue using them for many thousands of miles of additional life. This is done however slight the wear may be, because the wear causes the setting of the clutch to change. We have to watch for this condition as clutches used on heavy tank trucks receive considerable abuse.

When a driveshaft breaks we try to weld the break. Left over, broken tubing is shortened for use for a smaller shaft. Broken axles, and other steel parts, are machined into tools and other useful parts. We make special shackles, pins, drift pins, short shafts, power take-off shafts, shaft pullers, chisels and punches from these parts. We have gone back to rebabbitting connecting rods now that bearing shells are difficult to get. We also regrind crankshaft crankpins. Pump shafts are brazed or turned down for a smooth surface and oversize bushings are used. This work is done in our own shop, by one man who devotes his full time to such reconditioning work.

Heavy king-pin bushings are rehabilitated by knocking them out of their retainers and grinding them down for reuse in smaller front ends. On our heavier trucks, the rear shackles wear on the shafts to a considerable extent. It becomes necessary to replace the bushing. However, the worn side of the shaft itself is built up with new metal, sometimes from the old bushing. This is an important bit of parts salvaging, as the heavier shackles represent a substantial replacement cost.

(TURN TO PAGE 82, PLEASE)

Let a Meehanite Foundry Solve Your Casting Problems

Ansonia, Conn.
Farrel-Birmingham Co., Inc.

Bridgewater, Mass.
The Henry Perkins Co.

Buffalo, N. Y.
Pohlman Foundry Co., Inc.

Charleston, W. Va.
Kanawha Manufacturing Co.

Chattanooga, Tenn.
Ross-Meehan Foundries

Chicago, Ill.
Greenlee Foundry Company

Cincinnati, Ohio
Cincinnati Grinders Incorporated

Cincinnati, Ohio
The Cincinnati Milling Machine Co.

Cleveland, Ohio
Fulton Foundry & Machine Co.

Denver, Colo.
The Stearns-Roger Mfg. Co.

Detroit, Mich.
Atlas Foundry Co.

Flint, Mich.
General Foundry & Mfg. Company

Hamilton, Ohio
The Hamilton Foundry & Machine Co.

Irvington, N. J.
Barnett Foundry & Machine Co.

Los Angeles, Calif.
Kinney Iron Works

Milwaukee, Wis.
Koehring Company

Mt. Vernon, O., Grove City, Pa.
Cooper-Bessemer Corporation

New York, N. Y.
The American Brake Shoe & Foundry Co.

Oakland, Calif.
Vulcan Foundry Company

Orillia, Canada
E. Long, Ltd.

Philadelphia & Bethayres, Pa.
H. W. Butterworth & Sons Co.

Philadelphia, Pa.
Florence Pipe Foundry & Machine Co.,
(R. D. Wood Company, Selling Agents)

Phillipsburg, N. J.
Warren Foundry & Pipe Corp.

Pittsburgh, Pa.
Meehanite Metal Corporation

Pittsburgh, Pa.
Rosedale Foundry & Machine Co.

Rochester, N. Y.
American Laundry Machinery Co.

St. Louis, Mo.
Banner Iron Works

St. Paul, Minn.
Valley Iron Works

London, Eng.
The International Meehanite Metal Co., Ltd.

Waterloo, N. S. W.
Australian Meehanite Metal Co., Ltd.

Johannesburg, South Africa
Meehanite Metal Co. (S.A.) (Pty.) Ltd.

Scientific Data

backed by

SERVICE RECORDS

(Photo courtesy Inter-State System— a large user of Meehanite drums)

proves *Meehanite* BRAKE DRUMS

The long life and smooth action of **Meehanite** brake drums are made possible by a unique combination of properties "built-into" this modern metal.

Because the physical properties of **Meehanite** can be accurately controlled, it is possible to produce brake drums that provide such desirable characteristics as: greater resistance to braking heat; smooth, sure braking action; longer life for drum and lining. **Meehanite** drums have the strength needed to withstand high pressures, the rigidity to prevent distortion, the toughness to resist wear.

The results, foretold by scientific research and data, have been proved by hundreds of thousands of miles on the highways.

Special Fruehauf design– Meehanite drum providing long life, safety, resistance to scoring, smooth braking action.

MEEHANITE

SEND FOR BOOKLET

. . . Write for this authoritative discussion of brake drums of interest to every operator.

MEEHANITE RESEARCH INSTITUTE, 311 Ross Street, Pittsburgh, Pa.

METRO MASTERS PARTS SALVAGE

(CONTINUED FROM PAGE 80)

Shackle spring hangers are salvaged, whenever possible. These are burned off the old chassis and reconditioned for use elsewhere. Similarly, we save instruments, transmissions, gears and numerous other parts from junked vehicles. Chipped gears are ground down for a smooth edge and re-used.

Axle studs that become loose cause the stud holes in the wheel flange to wear in an elongated direction. A mechanic fills the regular holes with welding iron. Then he takes a pattern of the original holes, turns it so that the stud holes fall between the old holes and marks the new position for drilling. An entire set of new stud holes is then drilled and the wheel replaced. This is another important salvage operation, as it is impossible to keep wheels tight when stud holes wear excessively, and it is not only difficult but expensive to replace the flange with a new one.

Scored brake drums are turned down. When the brake drum stock becomes so thin as to make it doubtful if it will stand up under the heat of tough runs, we forge and sweat an iron band around the outside of the drum. This not only saves an expensive drum but insures us against road failures of this nature.

Old brake lining is saved and used for various purposes. One use is to replace worn rubber pedal pads. Rubber pedal pads cannot be replaced now, and the uncovered brake or clutch pedal is a hazard, particularly if a driver should get grease on the sole of his shoe and his foot should slip from the pedal. Pedals are drilled in two places and the old pieces of brake lining are bolted on.

Worn wrist pins are salvaged by grinding them down to a smaller size for use in smaller engines.

Both piston pin and universal joint locks are saved and old ones are being re-used, now that the locks are no longer obtainable as a set when purchasing new pistons or universals.

Our electrical repair department rebuilds generators, starters, starter fields, carburetors, volt regulators and related parts. We salvage generator and starter fields, rewind the fields with new tape, etc.

Sometimes when replacing the strainer plug in the top section of a carburetor, a mechanic will give the plug too much of a twist and strip part of the thread in the female part of the carburetor head. This is overcome by shaving down the underside of the plug head so that it can set farther into the threaded hole, where the lower threads will catch the plug and hold.

In all our work, we go beyond the old idea of reconditioning only parts that are easy to rebuild. If it is a part that we have never before reconditioned, we encourage our mechanics to figure out a way to save the part. By their efforts we are getting far more life from parts than ever before, and at the same time helping the war effort.

While the war shortage has brought about many of our present practices, it is common sense that we will never be satisfied to go back to our old standard of efficiency.

END

(Please resume your reading on P. 30)

Sounds like a miracle—but it's pretty simple. Increase the actual running time of the truck only 45 minutes a day, and the "miracle" is in the bag.

MAKE FIVE TRUCKS do the work of six! This often happens; maybe it's easier to understand this way:

Five Servis Recorders *save one whole truck. Divide the weight of the truck saved by the weight of 5* Servis Recorders *and you get the astonishing answer given in the headline above.*

It happens!—to those who take the trouble to make it happen. Saves money of course; but far more important, it *saves metal*—saves it in important quantities.

Send for our booklet, *"Ten Ways of Getting More Work Out of Motor Trucks."* It's free. THE SERVICE RECORDER CO., 1375 Euclid Ave., Cleveland, Ohio.

The Servis Recorder

Shows Busy and Idle Time... All Day

QUIZ ANSWERS

(Questions on page 67)

1. c. Preventive maintenance means thorough inspection at regular intervals for the purpose of detecting mechanical trouble at the outset and correcting it before it has a chance to develop into costly damage. The two important words are "thorough" and "regular".

2. c. Inspection is to be made every 1000 miles (or 30 days, whichever occurs first). In addition, at each 5000-mile and 15,000-mile interval, a more complete inspection is made.

3. b. All adjustments should be made to the truck manufacturer's recommendations. If not, they are not adjustments at all and they may do more harm than good.

4. a. The use of a "daily" driver's report cannot be too strongly urged. Even in ordinary times, efficient operators found these reports indispensable, because the practice tends to prolong truck life and to reduce the accident rate and maintenance costs. The daily report should include the speedometer reading and a check list covering such items as oil pressure, water temperature, battery, engine noises, leaks, etc.

5. a. The whole program will fail if the small fellows, the owners of just a few trucks, fail to cooperate. The vast majority of America's millions of motor trucks are in the hands of individuals, owning one or two trucks. For every large fleet of a hundred and more trucks, there are thousands of individually owned trucks. Moreover, as a general rule, the large fleet owners have been practicing some form of preventive maintenance right along. They know that it saves money.

6. a. Trailers should be checked as regularly as the trucks themselves—every 1000 miles, with more comprehensive inspections at the 5000-mile and 15,000-mile marks.

7. a. Before you can begin any program of preventive maintenance, your truck must be put in good operating condition. It's the old adage of "a stitch in time saves nine". Use one part now and save nine for the war effort.

8. d. 60 per cent. Next to excessive speed, nothing ruins a tire faster than to force it to carry loads beyond the limits for which it was designed and built. An overloaded tire generates terrific internal heat, which quickly weakens the tire body. Tread wear is rapid and uneven. Assuming 30,000 miles is normal wear, you'll get only 12,000 miles if you insist upon overloading that 50 per cent.

9. c. A million miles and more, and tires have gone over 100,000 miles. These are unusual records, and it's not likely that you will equal them. However, with proper care, your truck and tires can be made to last longer—long enough to beat Hitler, Hirohito and Benito.

10. b. Symbol of the U. S. Truck Conservation program is the red, white and blue "decal" emblem, to be affixed to the right hand cab door of each truck whose owner has signed the ODT pledge. Here's how the plan works: The owner signs the pledge and presents it at any official U. S. Truck Conservation Corps Station. These are designated by red, white and blue "Official Station" posters and include the establishments of truck manufacturers, tire dealers, oil companies and service stations. Upon presenting his signed pledge at any of these stations, the truck owner is given a "decal" for each of his trucks.

Timken Branch Personnel Changes

F. H. Lindus has been appointed service manager, San Francisco branch, Timken Roller Bearing Co., under the supervision of Ray Sanguinetti, district manager. He succeeds W. G. Turner, who has been commissioned a lieutenant in the United States Army.

Welch New Eisemann President

Eisemann Magneto Corp. announces the election of Howard S. Welch as president. Mr. Welch has been identified with the automotive and aircraft industries for the past twenty years, having served in an executive capacity with the Studebaker Corp., Bendix Aviation Corp., and American Eastern Corp.

Faber Laboratories Move

Announcement has been made of the removal of Faber Laboratories, Inc., to larger quarters at 1025 Georgia Street, Los Angeles, Cal.

When the FLEET'S IN
TUNE UP WITH NIEHOFF APPROVED PRODUCTS
★★ CARE WILL SAVE YOUR TRUCK
Between hauls — replace faulty ignition parts with Niehoff Approved Quality Products and keep your trucks geared to the strain of War Time loads and running schedules.
Frequent, periodical inspection, with Niehoff Precision Testing Instruments and replacements where necessary, will assure improved motor performance, conserve gas and oil and eliminate time-out for highway electrical repairs.
A complete line of Niehoff Approved Quality Replacement Parts and Tune-Up Equipment are available through a national network of Niehoff Jobbers.
Write today for literature and Tune-Up Bulletin No. 9, which contains timely and pertinent facts about distributor points. Every mechanic should have this interesting treatise.
C. E. NIEHOFF & CO.
4925 Lawrence Ave., Chicago, Ill.
Branch: 1342 S. Flower St., Los Angeles, Calif.
TAKE OFF with NIEHOFF TODAY
NIEHOFF
"THROW YOUR SCRAP INTO THE FIGHT"

REPORT ON 10-YEAR TIRE CONSERVATION

(CONTINUED FROM PAGE 38)

Then the circumference of each tire is carefully measured with a steel tape by an experienced mechanic, as illustrated on page 37. To meet our matching standards, each tire for the drive wheels, both for the outside and the inside dual wheels, must measure within a quarter-inch of the same circumference.

Tires measuring less in circumference, but which are still within the maximum quarter-inch tolerance, are placed on the inside dual wheels to take advantage of the crown slope of the pavement. Under no circumstances do we try to adjust differences in tire circumferences, as between outside and inside tires on dual wheels, by differences in the inflation of such dual tires. We do not "bleed" tires—that is, readjusting the air pressure caused by the increased heat of the pavement or steady driving. For a short period, several years ago, we did experiment with tube and automatic pump connections between dual tires, designed to equalize their respective air pressures, but we soon abandoned the practice.

Our tire-matching plan permits a little more tolerance in the size matching of new or transferred tires to be used on the rolling wheels of all our equipment. In this case, we permit differences in circumferences up to an inch or an inch and a half. Such tires also are measured and matched when they are on wheels and uniformly inflated for load conditions.

It is our practice at all times to keep the inflation of all tires within 5 to 10 lb. of the inflations under load recommended by the tire manufacturers. To insure such uniformity, the numerous attached air pressure gages that we have in our Montrose Shop are regularly checked as to their accuracy with our master gage.

We are constantly checking all tires as to excessive wear, and all wheels and tires are thoroughly rechecked at each new preventive maintenance period of about 3,000 miles. At such times the circumferences of all tires on wheels are again measured with steel tape, under uniform load inflation with the wheels either removed or the axles jacked up.

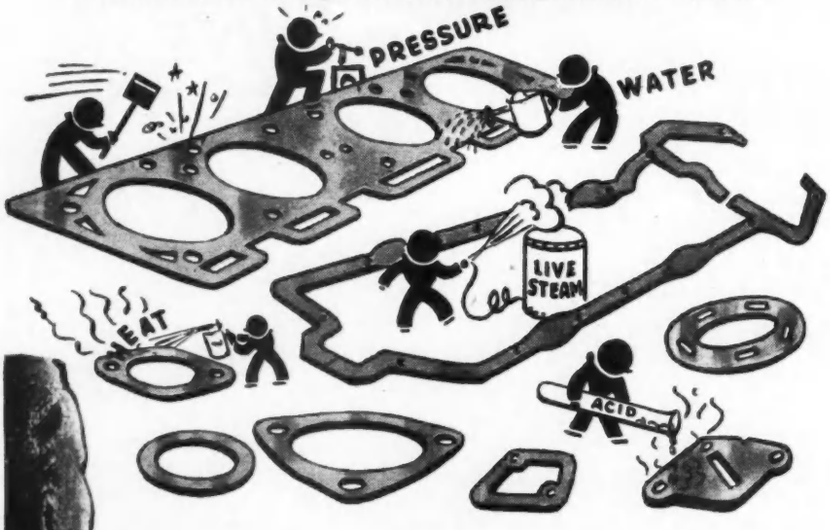
The many tire measurements that are made in between these periodic PM inspections, are usually in the form of measuring the rolling wheel radius. That is, using a steel bar to measure carefully the distance from the cement floor of the shop to the center of the axle of the wheel, as shown on page 36. Considering that we permit a ¼-in. tolerance in the tire circumference of the drive wheels, the tolerance in the rolling radius of such a wheel must be cut to about one-third of a quarter-inch, which means that the rolling radii of a properly matched tire must be kept practically identical.

Hence, if the rolling radius of any single drive wheel fails to measure up almost identically with all of the companion wheels of the outfit, then the tires on this particular wheel must be given immediate attention. As the present supply of tires on our heavy equipment is becoming more worn, we naturally are expecting increasing

(TURN TO PAGE 88, PLEASE)

RESEARCH

IS THE KEY TO FEL-PRO SUCCESS IN SERVING INDUSTRY, CAR MAKERS AND AUTOMOTIVE REPLACEMENT FIELD



WHEN you use Fel-Pro Gaskets you are using gaskets made by a manufacturer with many years' experience in designing gaskets to meet every possible need in both the industrial and automotive fields. You can rely on Fel-Pro Gaskets to stand up under the toughest service—to resist the highest temperatures and compressions of modern motors.

With Fel-Pro you can secure an especially engineered gasket for your specific requirements as the Fel-Pro line is complete.

Write for details and for your copy of the Fel-Pro Catalog.

FEL-PRO Gaskets
PUMP PACKING
GREASE RETAINERS

FELT PRODUCTS MFG. CO., 1520 CARROLL AVE., CHICAGO, ILL.

WHERE THE GOING'S TOUGHEST

WALKER JACKS ARE ON THE JOB

ON THE far flung battle fronts of the world, whenever fighting vehicles move on dangerous missions, Walker Jacks stand by for heavy duty. Walker dependability and Walker quality are serving the Army, the Navy and the Air Force.

WALKER MANUFACTURING COMPANY OF WISCONSIN
RACINE, WISCONSIN
Makers Also of Electric Lifts and Exhaust Silencers

WALKER LEADS IN JACKS

REPORT ON 10-YEAR TIRE CONSERVATION

(CONTINUED FROM PAGE 86)

difficulty in keeping them properly balanced, especially if we should be unable to get enough new ones in a group to change all of the drive wheel tires of an outfit at the same time. It will become steadily more difficult, also, to match properly only one or two new or recapped tires for an outfit, with its remaining older tires.

Our tire records require that all new tires be branded with two hyphenated numbers. Thus, the numbers "8—16" on a tire indicates that it has been assigned permanently to Truck or Tractor No. 8, and that it also is the 16th tire so assigned to this unit. Thus, the second of the number on a new tire for a particular truck will always reveal the extent of the tire conservation results obtained from the truck, as related to its shop maintenance and to the habits of its driver or drivers.

All tires on the heavy equipment garaged in our Montrose shop are inspected daily for inflation and other needed attentions. At the 12 other company shops in the Chicago area, where our 1300 units of lighter equipment are serviced, tires are inspected only twice a week. These inspections include: checking for proper inflation, cuts and bruises; removing nails and other foreign materials; determining proper time for recapping, and the matching of companion tires.

In addition to the regular shop inspections of all tires, all drivers are expected to check the condition of their tires previous to the start of a trip. Also, the drivers of all equipment making long runs are expected to inspect their tires every 50 to 60 miles during such a trip. The inspection includes a brief road stop and, on night runs, the use of a flash light to actually see each tire, and to roughly test the inflation of a tire by tapping it with an iron bar. Of course, all drivers are expected to be well enough trained and attentive enough to detect, by the feel of their driving control, if any of the tires on their outfits have lost any perceptible amount of air. If any tire is found perceptibly under-inflated, the driver is instructed to change it immediately. Each of our heavy outfits carries a spare tire which is supposed to match in general with the other tires.

Immediately after the driver has returned his equipment to the shop he reports his tire troubles on a tire record form. In the follow-up of this tire report, a shop mechanic checks the changed tire and makes certain that it, or a substitute tire, is matched perfectly with other companion tires.

Each shop handles it own tire repairs except vulcanizing which is sent to outside tire-service shops specializing in this work. No inside tire patches or reliners are used.

For a number of years it has been the company policy always to keep the best tires of an outfit on the front wheels, for reasons of driving safety.

During the past few years we have had very favorable results from the recapping of tires used on our light duty, city delivery equipment. These tires are regularly inspected for re-

(TURN TO PAGE 90, PLEASE)

MOBILE FIELD BAKERY
has PIERCE protection!

Mobile Field Bakery with Autocar Tractor, Model U5044, equipped with Pierce Flyball Governor . . . just one of many uses in which Pierce-equipped trucks and tractors are serving the nation's armed forces.

HOW TO MAKE YOUR GOVERNORS LAST!

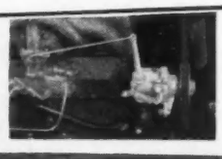
Like others manufacturing for war needs, Pierce production is for war and essential industry. For this reason new governors can be supplied only on a priority basis. But Pierce calls attention to these easy measures which will make your present Pierce Governors last and give the best service.

- **CLEAN GOVERNORS** once a month with kerosene, gasoline, or prepared cleaner.
- **INSPECT AND CHECK GOVERNORS** each week when in continuous operation.
- **CHECK OIL LEVEL** every day in manually lubricated governors. SAE 20 Oil is recommended at this time of year.
- **LINE UP** driving pulleys or gears accurately when reassembling governor after cleaning.

Should your governor need repair or reconditioning send it to the factory with the necessary preference rating certificate.

● Fighting men have to eat . . . so this mobile field bakery has to be on the job wherever the boys are! That means rough going and a heavy haul over all sorts of roads and terrain for the tractor engine. To protect it against excessive speed, as well as sudden, violent load changes, it is equipped with a Pierce Flyball Governor. Pierce's time-proven flyball design provides simple, *mechanical* operation that is *positive* and *unfailing*, regulating engine speed instantly to meet any change in load. And sturdy, precision construction makes Pierce Governors serve better and last longer. That's the kind of protection that keeps trucks on the job, mile after mile, at lower cost!

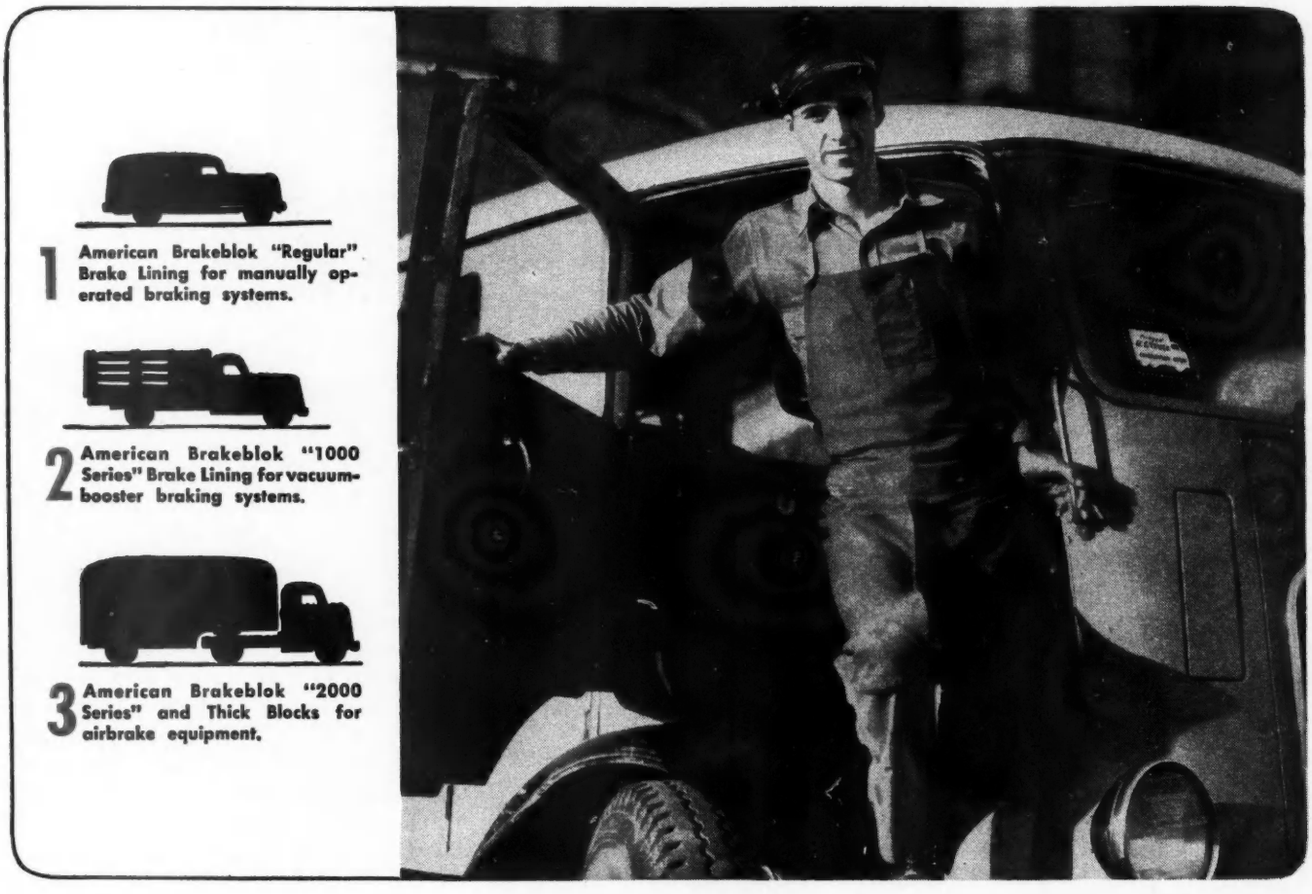
THE PIERCE GOVERNOR COMPANY
1611 OHIO AVENUE • ANDERSON, INDIANA



←This Universal type Pierce Flyball Governor is driven from the fan belt, and can be installed on any make or model of truck where a direct driving outlet is not provided. This model is still available with the necessary preference rating certificate.

Pierce Governors
STANDARD SINCE 1913

Good Brakes Help Keep the Truck Conservation Pledge



1 American Brakeblok "Regular" Brake Lining for manually operated braking systems.

2 American Brakeblok "1000 Series" Brake Lining for vacuum-booster braking systems.

3 American Brakeblok "2000 Series" and Thick Blocks for airbrake equipment.

LET your men who've signed up with the U. S. Truck Conservation Corps . . . 'most everyone has by now . . . have an even chance to live up to that Pledge. Give them good brakes to stop trucks smoothly, save rubber, help avoid truck-busting accidents.

Good brakes are no longer a matter of trial and error. We now offer you a free Brake Lining Advisory Service that puts skilled brake engineers to work for you, adapting one or more of three specialized types of American Brakeblok heavy-duty brake linings to the particular requirements of each and every one of your trucks.

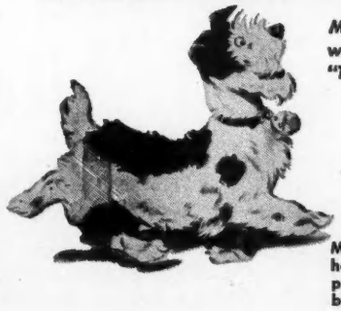
To get this service, simply ask your American Brakeblok representative or jobber's salesman to fill in an Advisory Service form for you, or write us.

THE AMERICAN BRAKE SHOE & FOUNDRY COMPANY

AMERICAN BRAKEBLOK DIVISION, DETROIT, MICHIGAN

American Brakeblok

BRAKE LINING



My company is cooperating fully with the Government on the "Truck Conservation" Program.

NAPA Approved Automotive Parts Distributor Assurance of Quality

Master stocks in 37 NAPA Warehouses. Jobbers everywhere give prompt service on American Brakeblok Brake Linings.

REPORT ON 10-YEAR TIRE CONSERVATION

(CONTINUED FROM PAGE 88)

capping by our own tire maintenance mechanics. All tires considered for recapping are finally passed on by the inspectors of our recapping service shop. The chief requirements are that the inner fabric of the tire casing be uninjured and that the tread rubber be not entirely worn off. Most recapping is done on a guarantee basis that each recap will duplicate the original mileage of the tire. The percentage of failures in such a mileage guarantee have been so few as to be negligible.

To date, we haven't had very favorable experience from recapping the larger drive-wheel tires on our heavy-duty highway equipment, doubtless because of the much higher degree of heating developed in these heavy tires on long highway runs.

We have had more favorable experience from the recapping of the tires on the rolling wheels, as contrasted with the driving wheels of our highway equipment. Recently, an increasing percentage of such heavy tires for rolling wheels have been recapped. Naturally, such tires must be pulled off for recapping at somewhat lower mileages, and such a program interferes with the rotation of such tires from the front to the rear wheels of the vehicle, and finally back to the trailer wheels. To the present time, we haven't had enough experience to determine how many times such heavy tires possibly may be recapped.

END

(Please resume your reading on P.39)

RUGGED and DEPENDABLE HEAVY-DUTY TRUCKS from SMALLER UNITS

... and Uncle Sam Approves!

YOU NEED BIG-CAPACITY, HUSKY TRUCKS for today's jobs ... but you can't buy standard equipment of this type now.

QUITE A PROBLEM? NO!

For years successful operators with tough, difficult, heavy-duty, on or off-the-highway hauling problems have saved time, money, men and material with

THORNTON Four-Rear-Wheel DRIVE

From coast to coast in the U. S. A. and in countries all over the world, 1½ to 3-ton trucks have been converted with THORNTON units into DURABLE, FLEXIBLE, HEAVY DUTY VEHICLES that out-pull, out-last and out-maneuver standard trucks costing double or more.

Put TWO driving axles under the load instead of one, double the gear speeds, better springing and load flotation, with vastly superior tractive ability . . . all of this for less money!

Government approval? Yes, up to now. But these things are subject to change . . . so act quickly. Contact your nearest Truckstell-THORNTON dealer, or wire factory direct. Trained men will engineer this equipment to the requirements of YOUR PARTICULAR JOB.

THORNTON TANDEM CO.
8715-8779 GRINNELL AVE. DETROIT, MICH.
Manufacturers also of the THORNTON automatic-locking DIFFERENTIAL
"When you need TRACTION you need THORNTON"

LAUNDRY KEEPS FLEET COSTS DOWN

(CONTINUED FROM PAGE 39)

our plants. The California-Hollywood Laundry Garage is the main one. When a driver has trouble on the road he calls in to the garage out of which he works. If the tow car there is busy, the call is transferred to the main garage which handles it. Our tow cars can do the following work on the road: tire exchange, ignition repair, broken gas line, fuel pump, fan belt, and minor repairs.

Our staff of mechanics consists of six skilled and three unskilled men, most of whom have been with us for a long time. The skilled men are accomplished mechanics, experienced in all types of fleet maintenance except body and fender work. The unskilled men wash cars, grease, change tires, water batteries, and run errands for the shop.

The shop equipment in the main garage consists of such equipment and instruments as are required to maintain a fleet at the highest operating efficiency and lowest point of unit cost.

The two auxiliary garages are equipped for general maintenance work including brake relining, valve grinding, battery charging, tire repairing and changing wheel aligning, welding and lubricating. Whenever possible, the garage out of which the truck operates, handles its repairs. If it does not have the equipment to do the required work, the truck goes to the main garage.

As to welding, Laundry Properties

(TURN TO PAGE 92. PLEASE)

THE RIGHT RING FOR EVERY REPLACEMENT CONDITION

★ Steel-Vent, the piston ring that was designed and engineered exclusively for replacement service, works equally well in rebored, re-sleeved or tapered cylinders.

Steel-Vent's extreme flexibility plus high unit pressure enable it to give maximum performance even in badly tapered cylinders. Yet its low total tension gives a free running piston in rebored or re-sleeved jobs.

Under all cylinder conditions, Steel-Vents have become famous for being gentle on the cylinder walls. They're famous too among fleet operators for being tough on oil-pumping, and notable for long life.

For *every* replacement you can depend on Steel-Vent. It's the right ring for any job. And you will find a Steel-Vent Motor Engineered Set available for most all cars, trucks and buses.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN
Hastings Mfg. of Canada, Ltd., Toronto
PISTON RINGS • PISTON EXPANDERS • VALV-RINGS

TOOL UP FREE . . . WHILE YOU CAN!

The Hastings Service Tool Plans make it possible for you to get these and other valuable tools free with the purchase of Hastings Steel-Vent Piston Rings.

NEW HASTINGS AIR-PEEN HAMMER—Compact, light, fast, and easy to use. Permits pistons to be peened in cylinder. Operates from air compressor.

BEARING OIL LEAK DETECTOR—An ingenious, simple tool for discovering and demonstrating the need for bearing replacement.

HASTINGS

STEEL-VENT PISTON RINGS

U. S. Patent Nos. 2,148,997, 2,175,409

Stop Oil-Pumping • Check Cylinder Wear

LAUNDRY KEEPS FLEET COSTS DOWN

(CONTINUED FROM PAGE 90)

does only minor jobs, such as fenders and running board brackets, doors, tubular drive shafts, wheels, radiator brackets, frame cross members, gear shift levers and forks. Incidentally, the welding equipment does work for the laundry plant machinery, such as, welding cast iron, brazing of steel and cast iron, and electric welding of broken steel and cast iron parts.

We make it a firm rule to take care of minor repairs as soon as they are needed, and we depend on the driver's report to divulge any irregularities in the operation of his truck. The driver is obliged to give prompt notice of any trouble. We do not permit any driver to operate a vehicle that is not in perfect mechanical condition, regardless of how far he might be from the nearest company garage. He must 'phone in any mechanical difficulty developed on the route and a tow car is then sent to make the repairs. The routemen are instructed not to touch the engine.

The trucks are serviced and checked every 2000 miles, and spark plugs and ignition are checked every 5000 miles. The distributor is replaced every 8000 miles unless a condition arises that would warrant an earlier change.

Any one of the six mechanics is capable of doing the necessary repairs. Carburetors and fuel pumps are cleaned every 10,000 miles. Wheels are removed every 20,000 miles; bearings washed thoroughly and repacked with wheel bearing lubricant. If found faulty, they are replaced. During a service check, if a battery is using an excessive amount of water, a thorough check is made immediately to correct the condition.

When one of our trucks reaches 35,000 miles, we give it a thorough check-up. I personally check it with the mechanic who will be assigned to do the work found necessary. We check the compression, fuel report, and gas and oil. If an excessive amount of oil is being consumed, we order a ring and valve job. If the oil consumption is normal, however, we order only a valve job. We also check the ignition, carburetor, fuel pump, ignition wiring, spark plugs clutch, transmission, and rear axle. We flush the cooling system, by means of a reverse flow pressure system, to remove any sediment which may cause overheating.

When a motor is ready to be overhauled, this is our procedure: check crankshaft wear, test for out of round, examine cylinder bore for taper, inspect pistons and ring lands, replace valves and guides where needed. Whenever the valves have over .003 clearance in the guide, the guide or the valve or both are replaced. Valve guides usually need changing between 40,000 and 50,000 miles. The carburetor is overhauled and the float level set 3/64 in. lower than standard. We find this is the best setting for our driving conditions. We check the ignition thoroughly; test coil and condenser capacity, replace the fuel pump when the pressure is abnormal, replace the spark plugs every 25,000 miles, and use new gaskets throughout. Brake action is care-

(TURN TO PAGE 94, PLEASE)

Micro-Linor Tells You WHEN YOU'RE WASTING TIRES —and Points out the Mechanical Defects Responsible

New "Tracer-Wheel" Method of Checking Wheel-Roll

EVEN though camber, caster and toe-in may check perfect, still your tires may be grinding themselves to pieces because of damaged, worn, or misadjusted parts in the chassis mechanism which cause the individual wheels to roll in a different direction from that of the truck as a whole.

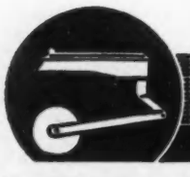
A simple method of detecting these defects is now made possible by means of the Micro-Linor. Operating on the new and patented "Tracer-Wheel" principle, it not only reveals the exact rolling direction of the truck as a whole, but also discloses how far from its proper course each individual wheel is rolling.

Unlike any other testing instrument, the Micro-Linor makes its check-up while the truck is in motion. The "Tracer-Wheel" runs alongside of each wheel as it is being tested, thus showing what is happening to each tire as it travels on the road.

Important also is the fact that a Micro-Linor check-up can be made very speedily. In a few minutes' time, and usually without even the use of a jack, you can now spot the tire troubles which formerly required hours of tedious labor to locate.

TESTING APPARATUS, INC.
1629 W. Fort Detroit, Mich.

Free CATALOG



MICRO-LINOR
Patented "Tracer-Wheel" Principle

Stop Tire Wear Before It Starts!

BEARINGS, TOO, MUST RESIST *High Pressure!*

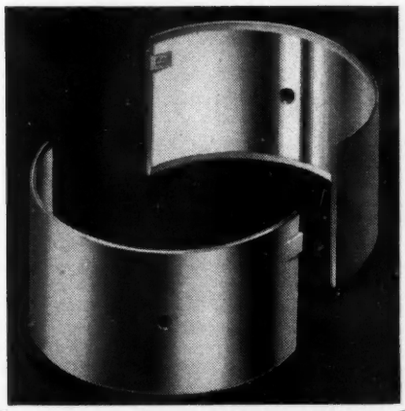
POSED BY GINNY, TOM AND EDDIE

Genuine

RING-TRUE BEARINGS

Ring-True "Aviation" type copper alloy bearings are designed especially to resist high bearing pressures. That is why they are fighting the Axis today on all fronts in aircraft engines, Diesel and heavy-duty gasoline engines. Ring-True bearings of all types are going constantly in unprecedented quantities to the fighting forces of the United Nations. On the home front, your C & B jobber still can usually supply your legitimate requirements. Be sure to specify *Genuine* Ring-True.

★ BUY U. S. WAR BONDS AND STAMPS ★



ALWAYS REPLACE BEARINGS IN SETS

RING-TRUE C & B BEARINGS

Complete Motor Bearing and Connecting Rod Service

CLAWSON & BALS, INC., Chicago

Factory Stocks in Principal Cities

(CONTINUED FROM PAGE 92)
fully observed at this time; drums are trued and lining replaced, if needed.

In order to insure mechanical safety, the following routine is employed: every 2000 miles brakes are given a driving check and adjusted by a mechanic. Once a week tires are checked for correct air pressure and for good non-skid surfaces. Wheel alignment, steering gear and horns are checked each time a car is serviced. Since these trucks operate in a region where there is no rain from April to September, there is no need to check windshield wipers during that period. However, in September, which sometimes begins the rainy season, windshield wipers are thoroughly examined to put them in perfect condition for the season. All work is done in the company's shop, except cylinder reconditioning and brake drum turning.

Our cars are washed and cleaned on Sundays, on a staggered system. The engines and running gears also are periodically steam cleaned. At each of our three garages we maintain a wash rack equipped with power hoist and steam hose.

Before washing, a car is gently sponged with a non-abrasive soap and allowed to stand for a few minutes until road grime is dissolved. It is then washed and chamoised.

The trucks are painted at my discretion. When the general appearance of a truck becomes cloudy from washing and exposure to the sun it is repainted. The trucks that go to the coast cities need repainting every six months, because of the moisture in the air, while those that operate in the valley towns, where it is comparatively dry, won't need repainting for two or three years.

To increase the gas mileage of each piece of equipment, checks are made constantly: fuel pump pressure, carburetor jets and float level, timing and ignition, spark plugs, and air-fuel ratio every 5000 miles, brakes and air pressure in tires once a week. Our trucks maintain a 14.5 fuel ratio at 2800 r.p.m. by the use of an exhaust analyzer.

Laundry Properties' 106 ½-ton trucks, used in package deliveries, run from 25 to 100 miles per day, depending on the character of the route the man is servicing. The 1½-ton trucks are used for package deliveries of a heavier sort: hotel and apartment service, rug cleaning, and furniture cleaning. Seven inter-plant relay trucks are used on four line hauls and for branch to branch deliveries. The company's records show 17 miles per gallon on the ½-ton deliveries and 10 miles per gallon on the 1½-ton trucks.

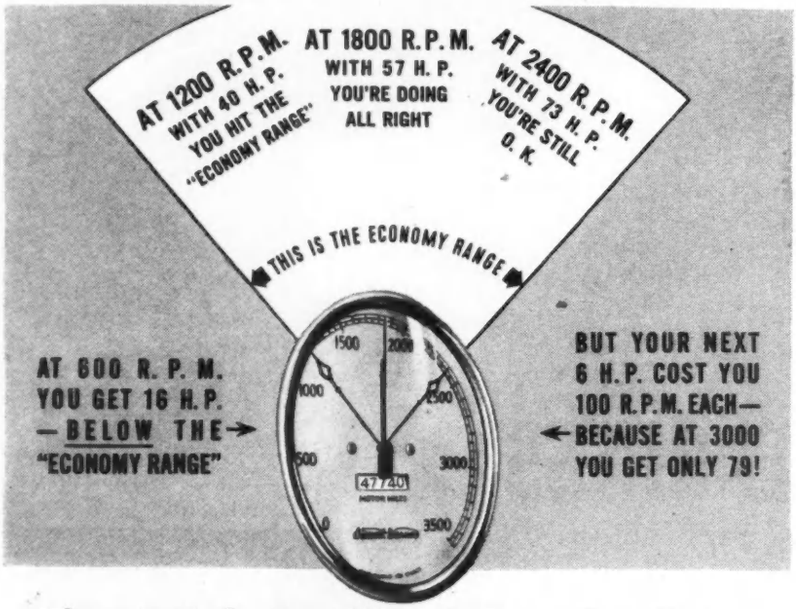
Oil filters are used on all trucks. The cartridges are changed every 6000 miles and the oil every 3000 miles.

As can be expected, we're taking very good care of our tires. We use two types of tread: the rib tread and the start and stop tread. Rib treads are mounted on the front wheels and the start and stop treads on the rear.

Our records show an average of 17,000 miles service on ½-ton trucks, 35,000 miles service on 1½-ton trucks. This is for new tires. We make a practice, at all times, of retreading worn tires. In the past we have been able to retread our tires with heavy duty camelback, which

(TURN TO PAGE 96, PLEASE)

WHEN YOU'RE PAYING 100 R.P.M. FOR EACH ADDED HORSEPOWER YOU'RE THROWING MONEY AWAY!


AT 1200 R.P.M. WITH 40 H.P. YOU HIT THE "ECONOMY RANGE"
AT 1800 R.P.M. WITH 57 H.P. YOU'RE DOING ALL RIGHT
AT 2400 R.P.M. WITH 73 H.P. YOU'RE STILL O.K.
THIS IS THE ECONOMY RANGE
AT 600 R.P.M. YOU GET 16 H.P. — BELOW THE — "ECONOMY RANGE"
BUT YOUR NEXT 6 H.P. COST YOU 100 R.P.M. EACH— BECAUSE AT 3000 YOU GET ONLY 79!
47740

There's Only One Way Drivers Can Know And That's by Using this Amazing Instrument!

THINK of the fuel—and the oil—and the wear and tear involved in spending 100 r.p.m. for the sake of getting a single added horsepower! It's rank extravagance to drive any truck at an engine speed above or below the "economy range"—but your drivers can't tell they're out of that range unless they're using the Stewart-Warner Motor Mile Tachometer!

With this amazing instrument, it's easy to stay within the "economy range"—because the upper and lower limits of that range are permanently marked by red pointers. In the case of the example shown here, those limits are 1200 and 2400. They will be different for other trucks.

Users report that Stewart-Warner Motor Mile Tachometers save up to 25% in gas and oil. And, because they permit servicing trucks on a basis of "motor miles" instead of road miles, they may easily save another 25% in repairs! *Write for complete information!*

STEWART-WARNER

MOTOR MILE TACHOMETER

STEWART-WARNER CORPORATION

1876 DIVERSEY PARKWAY CHICAGO, ILLINOIS

Another Product of STEWART WARNER

Use this Advertisement to Check up ✓ on the Safety Lighting and Equipment of Your Trucks!

Pledged U.S. TRUCK CONSERVATION CORPS

INSTALL DO-RAY ALL THE WAY

For Safety Lighting and Reflecting Equipment It's DO-RAY All the Way

No. 100 TIGER-EY PLASTIC REFLEX TRUCK DEVICE

Brilliant reflection for hundreds of feet, straight on or at angle. Reduces accidents. Sturdy, efficient, durable — red or amber lens.

No. 1292 NOBBY REFLEX

For trucks, busses or trailers — constructed and designed to withstand severe abuse — red, amber, green or white.

No. 1132 THREE-WAY SENIOR LIGHT

Solid brass strip wiring assembly—positive contact maintained with live rubber cushion—lens designed to give maximum illumination front and sides—shockproof, waterproof.

No. 1132R FLEX-FIT 3 WAY TRUCK AND BUS LIGHT

Heavy flexible vulcanized rubber — fits all curved and flat surfaces — contact strips vulcanized in place — waterproof, dustproof, shockproof.

No. 1173 FLUSH TYPE CLEARANCE LAMP

Latest design lamp. Made of steel. Extreme height only 1 1/8 inches. One piece, specially designed lens gives maximum amount of light — red, amber, green or white. Durable Udylite finish.

No. 1136 SWA-BAC FLEXIBLE CLEARANCE LAMP

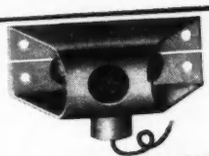
Entire body made of rubber. Vibration proof — waterproof — dustproof. Gives with impact — lens breakage reduced to minimum.

No. 400 ZEPHYR CLEARANCE LAMP

For trucks, passenger cars, trailers —base curved and mounted on rubber pad — will fit most any surface — rubber gasket seals lens and eliminates dust from inside lens and on bulb.

No. 1203 STREAMLINER CLEARANCE LAMP

A 3-in-line-marker-clearance or fender lamp — resilient rubber pad permits fitting to curved surfaces — sturdily constructed — easy to install.



No. 1106 ALL RUBBER LAMP

3 interchangeable lenses. Correct position of red and amber lenses possible regardless of mounting.

No. 500 5-INCH THIN MODEL G. E. SEALED BEAM FOG LAMP

Throws powerful beam of light—fits all cars with stone apron — easily installed — only one hole to drill — adjustable bolt in lamp housing permits focusing.

No. 600 GENERAL ELECTRIC SEALED BEAM FOG LAMP

Sealed beam all glass, amber fog light lens unit. Styled to match modern head lamps. Theft proof malleable iron bracket. New, improved door styling.

No. 349 ELECTRIC FLARES AND CONTAINER

Extremely durable. Steady burning. Lens designed to eliminate dark or dead zones.

No. 80 HEAVY DUTY STOP LAMP

Substantially built of heavy gauge steel—waterproof — dustproof. Lens made of high transmission ruby glass. Angle bracket mounting.

No. 1193 STOP and TAIL LAMP

Steel body — Tiger-Ey Hex-Flex lens meets S. A. E. Class "B" specifications.

No. 70 GIANT-LITE

Ideal for trucks with rear doors extending full height of body. Angle bracket designed to permit 4 different mounting positions.

No. 36 TURN LITE

A double faced direction-signal for fender mounting on trucks, busses and trailers. Optimetrical quality at 125 feet day or night. Easy to install — rugged construction.

No. 1330 STURDI-BILT TRUCK MIRROR

Hinge mounting. Adjustable to any position. Rubber bumper guard reduces damage to mirror.

No. 1306 SUPER TRUCK FLARE

Meets all I. C. C. and state requirements. Passes vibration, water, dust and wind velocity tests. Sturdily constructed of 22 gauge steel. Will burn for 18 hours.

PROTECTION means conservation and conservation means a helping hand to the nation's war effort. . . .

The dangers of damage and destruction of your trucks are greatly minimized when they are properly equipped with Do-RAY Safety Lighting and Reflecting Equipment.

Do-RAY products are designed to conform to all motor vehicle and safety lighting regulations. Do-RAY products have been selected by manufacturers of mobile units for the United States government as standard equipment.

IF YOU CANNOT GET DO-RAY EQUIPMENT CONVENIENTLY FROM YOUR SUPPLY DEALER, WRITE

CERTIFIED DO-RAY PRODUCT Tested by RECOGNIZED TESTING LABORATORIES, PASSING SPECIFICATIONS OF S.A.E. AND I.E.S. MEETING REQUIREMENTS OF I.C.C. SAFER LIGHT SAFER SIGHT

DO-RAY LAMP COMPANY

1458 S. MICHIGAN AVE. - CHICAGO

SAFETY LIGHTING AND REFLECTING EQUIPMENT

(CONTINUED FROM PAGE 94)

we've found to give better service than the original rubber. We got an average of 20,000 miles on the ½-ton truck tires and 40,000 miles on the 1½-ton truck tires. We retread at least three times, and sometimes more. We've been getting about the same mileage on second and third retreads as we have on the first.

The routemen, who make an average of 64 stops a day, are constantly schooled in the observation of safety precautions. Each week at the sales meeting the drivers are reminded to report the condition of their brakes, to clean their windshields and, during the rainy season, to inspect their windshield wipers carefully. Once each month a safety meeting is conducted with the cooperation of our insurance company, at which safety measures are thoroughly discussed. At the end of each year, a service card is issued to each man who had no accidents during the year.

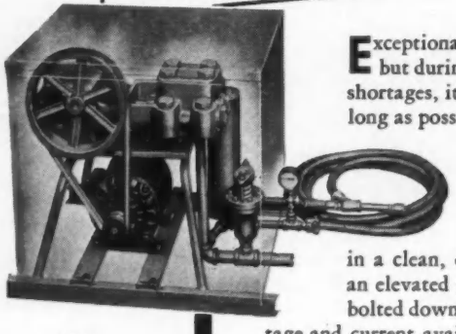
END

(Please resume your reading on P. 40)

To Extend the Long Life of Your

CURTIS CAR WASHER

Follow These Simple Tips on Proper Maintenance



Exceptionally long life is *built-in* every Curtis Car Washer, but during these critical days of restrictions and material shortages, it's essential that you make all equipment last as long as possible. A little extra maintenance care, following the tips on this page, will help to assure that maximum usefulness and longer life from your Curtis washer.

✔ ***Check Installation:*** Locate Car Washer in a clean, dry place close to the wash rack. It may be on an elevated platform or shelf, should be level, and securely bolted down. See that motor specifications agree with voltage and current available. Be sure that flywheel rotates with top of pulley in direction away from pumping cylinders.

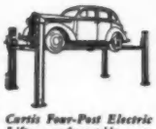
✔ ***Lubrication:*** Check oil level daily with pump stopped. Keep level above "low" mark. Oil motor bearings regularly.

✔ ***Testing:*** If pressure drops below 300 lbs. with nozzle open, look for clogged strainer, restricted water supply, slipping belts or low voltage. Check for leakage past plungers, indicating cups need renewing.

✔ ***Servicing:*** Drain and refill with clean oil at least every 90 days. Keep stuffing boxes just tight enough to allow slight water leakage. If replacing packing, use only high grade lubricated graphited hydraulic packing. Curtis can supply correct size and kind, cut to fit. Keep governor clean — keep belts clean and reasonably tight. Drain cylinders in freezing weather.

✔ ***Electrical:*** Keep motor dry. Don't connect to light wiring — run proper size cable direct from meter. Use proper fuses — avoid jumpers. Thermal cut-outs are recommended, and should always be used with 2 or 3 phase motors.

By keeping your equipment clean, properly lubricated, and adjusted, with stuffing boxes well packed, you can easily extend the useful life of your Curtis Car Washer and also reduce maintenance expense.



Curtis Four-Post Electric Lifts . . . easily portable . . . no excavating or floor sockets . . . no overhead obstructions . . . maximum accessibility . . . completely safe.

Curtis Hydraulic Rotating Lifts — safe at all heights . . . exceptional accessibility . . . 16 ft. self-leveling platform . . . four ton capacity . . . handles all cars.

Curtis Compressors . . . dependable, low-cost air supply . . . precision-built for long life . . . automatic starting unloader, sizes ½ to 10 H.P., single and two-stage.

CURTIS PNEUMATIC MACHINERY DIVISION of *Curtis Mfg. Co.*

1970 Kienlen Avenue, St. Louis, Missouri

PARTS SALVAGING PROCESSES & POINTERS

(CONTINUED FROM PAGE 45)

due to its use is normally worn away rapidly, is protected by a layer of special alloy which possesses exceptional resistance to abrasion and wear. The process can be applied equally well to new parts before their first use or to old, worn parts. Experience has shown hard facing to be an easy and economical method for keeping equipment on the job without losing time, excessively, for repair or replacement of worn parts.

The economies of hard facing may be summarized as follows:

1. Longer life of equipment.
2. Fewer replacements, with resultant savings in labor charges and lost operating time.
3. Utilization of cheaper base metal for wearing parts.
4. Renewal or reclaiming of worn parts.

Although hard facing may be done by any of the standard fusion welding methods, there are several factors which govern the choice of method for any particular application.

For hard facing with stellite (a typical hard facing metal), the use of the oxyacetylene method is recommended wherever possible. The blowpipe allows better control over the operation and produces a smoother deposit.

In fusion welding, penetration is essential; but in hard facing, interalloying of base metal and hard facing material should be avoided as far as possible.

The metallic arc process is generally used for depositing hard facing material on large surfaces which could not be properly heated by the oxyacetylene flame. Also, on parts whose shape necessitates the use of only a quick surface heat, if warpage is to be avoided.

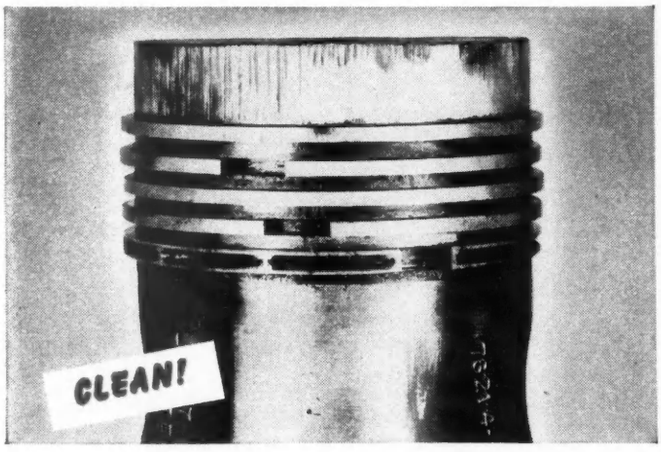
Some of the automotive parts that are being successfully reclaimed by hard facing regularly every day are given below.

Automotive Valves: For 120-hp. Hall Scott engine, the welding time by use of special fixture, see illustration, is 10 min. Grinding time is 15 min. Hard facing rod cost is 15 cents. Such a hardfaced valve can

(TURN TO PAGE 98, PLEASE)

Question: Can you run your trucks for the NEXT 5 YEARS?

Answer: Only if your motors get proper care!



Piston from Diesel truck after severe high-speed, high-load test run, using Quaker State HD Oil. Such results in cleanliness and trouble-free operation are possible only by proper blending of oil with correct detergent.

Piston from Diesel truck engine after similar test run. Oil used was a well-known commercial truck and bus oil, long considered a quality product by old standards. Lack of a scientific detergent is responsible for heavily carbonized rings and grooves.

New trucks are not available. Your government wants you to take the utmost care of those you now have . . . to keep them in repair . . . to keep them on the road, to speed the flow of farm, military and industrial products so necessary to Victory.

There is one important service job you can pass right on to Quaker State . . . and that's lubrication. Put the care and cleanliness of your motors up to Quaker State HD Oil.

Quaker State HD Oil is made especially for truck service. It is skillfully refined from pure Pennsylvania grade crude oil, and scientifically compounded with tested chemical agents which provide the important anti-corrosion and detergency features so necessary to the proper lubrication of truck engines—both gasoline and Diesel. Write today for the Quaker State HD booklet . . . Learn how to make your trucks last many years longer. Quaker State Oil Refining Corp., Oil City, Pa.

QUAKER STATE

HD

OIL

—A NEW OIL FOR SERVICE IN TRUCKS, BUSES, TRACTORS AND OTHER MOTORIZED EQUIPMENT—BOTH GASOLINE AND DIESEL ENGINE POWERED

Pledged U.S. TRUCK CONSERVATION CORPS

JOIN THE U. S. TRUCK CONSERVATION CORPS AND EARN THE RIGHT TO DISPLAY THIS EMBLEM

PARTS SALVAGING PROCESSES & POINTERS

(CONTINUED FROM PAGE 96)

be expected to give 100,000 to 120,000 miles of service.

Valve Rocker Arms: For 200-hp. Hall Scott Engine. The welding time is 2 min. The grinding time is 5 min. Cost of hardfacing rod is 8 cents. Other parts include: push rods, camshaft lobes, valve stem ends, brake cam shafts, clutch fingers, clutch yokes, fifth wheel pins, pintle hooks and eyes, shifter forks, sprockets, tire chains, diesel engine fuel pump metering disc (Cummins).

Automotive construction equipment parts such as: tractor grousers, tractor track rails, tractor track rollers, tractor drive sprockets, tractor idler wheels, power shovel teeth, power shovel buckets, power shovel track pads, power shovel latch bars, grader and road maintainer blades, grader mold boards, bull dozer end plates, earth boring augers.

"Now that America needs every available wrench and hand tool for war production and maintenance of military equipment, my present Snap-on set may have to last me a long, long time. There's a heap of satisfaction in knowing that I can depend on Snap-ons to give me all the service I can possibly need as long as the war lasts.

"I bought Snap-ons because those thin straight-walled sockets work so efficiently in extremely close places, and the complete assortment of wrench handles give me the right wrench combination for any nut turning job together with all the leverage I need to move the tightest nut . . . I like the accurate machining on the wrench openings that make them fit exactly right on the nut, and I like their balanced design and appearance.

"But more important still, they are built of the finest alloy tool steels available, heat treated to give long service under the toughest working conditions . . . that's why I'm glad I bought Snap-ons."

Snap-on Tools
THE CHOICE OF BETTER MECHANICS

SNAP-ON TOOLS CORPORATION

8026-J 28th Avenue • KENOSHA, WISCONSIN

METAL COATING

Molten metal spray coatings do not fuse to the surface, but depend for their bond on the high velocity of the minute particles which are driven on to the surface by high pressure air, and by the roughness of the prepared surface. Well atomized sprayed metal particles vary in size from about .0001 in. to .0006 in. in diameter, and they are projected on to the surface to be coated at a velocity of from 5 to 14 miles per min.

Sprayed metal, either ferrous or non-ferrous, makes a much more efficient bearing surface than the solid metal, due largely to its porous nature. When applied for corrosion resistance, any thickness desired may be applied, as opposed to plating which is limited.

In many cases, defects in castings can be repaired by metal spray. Worn or scored bearings or shafts of any size, scored or corroded pump rods or shafts, worn pistons, undersize parts and similar work can readily be repaired and made as good as, or better than, new by metal coating.

A striking example of the economical use of metal coating is that of salvaging worn bronze bushings; by first squeezing them through a die, to make the bore machinable to desired size, and then spraying steel on the outer diameter and finishing to size.

Following are typical automotive parts that are being successfully reclaimed and renewed every day by the use of metal coating. The typical costs are given in some cases to give an idea of that feature. These cost figures are not wholly representative of the economies, however, due to the fact that in many cases much longer life is obtained from the metal coated part than was obtained under the wear due to first use.

Ford V8 Crankshaft.....	$ 40.00
Cummins HB6 Crankshaft.	145.00
Cummins HB6 camshaft..	46.00
RD8 Caterpillar tractor steering drum..	35.00
Final drive pinion bearing fits	
Steering drum axles	
Transmission housing bearing fits	
Oil or grease seal fits on crankshafts, pump shafts, final drive steering drum shafts and the like	
Track roller pins	

(TURN TO PAGE 100, PLEASE)

Ready to help you in 2 WAYS to make your Pledge good

Naturally you want to do everything you can to carry out your pledge to Uncle Sam for truck conservation. Jim Asbestos can help you in two ways:

1. Through the J-M Brake Advisory Service

J-M Engineers will specify the correct brake lining for each truck in your fleet, *based on your specific operating conditions.* You get uniform friction at all four wheels, which means less wear on tires, longer life for brake drums.

2. By Providing the Finest Brake Linings Made

Johns-Manville Brake Linings are developed in the world's finest friction materials laboratory . . . and backed by more than half a century of practical experience. There's a J-M lining that will deliver minimum cost-per-mile braking in every type of trucking service—light, medium, heavy duty.

Write Johns-Manville, at New York, Cleveland, Chicago, St. Louis or San Francisco.

JOHNS-MANVILLE JM PRODUCTS

The Lifesaver of the Nation's Highways

JOHNS-MANVILLE BRAKE LINING

PARTS SALVAGING PROCESSES & POINTERS

(CONTINUED FROM PAGE 98)

HARD CHROME PLATING

Hard chrome plating for wear or abrasion resistance is applied directly to the base metal. The thickness of hard deposits varies from .0003 in. to .050 in. but should be at least .003 in. for heavy service. At the upper end from .010 in. to .050 in. is the field of building up of worn or undersize parts. Deposits greater than .001 in. must be finish ground or lapped to size. Since finish grinding is required, the parts must be ground undersize before plating, plated oversize, and then finish ground or lapped to size.

Following is a list of automotive parts that have been successfully reclaimed and renewed by the hard chrome plating process. Typical costs are also given, covering the plating but not the grinding before and after plating.

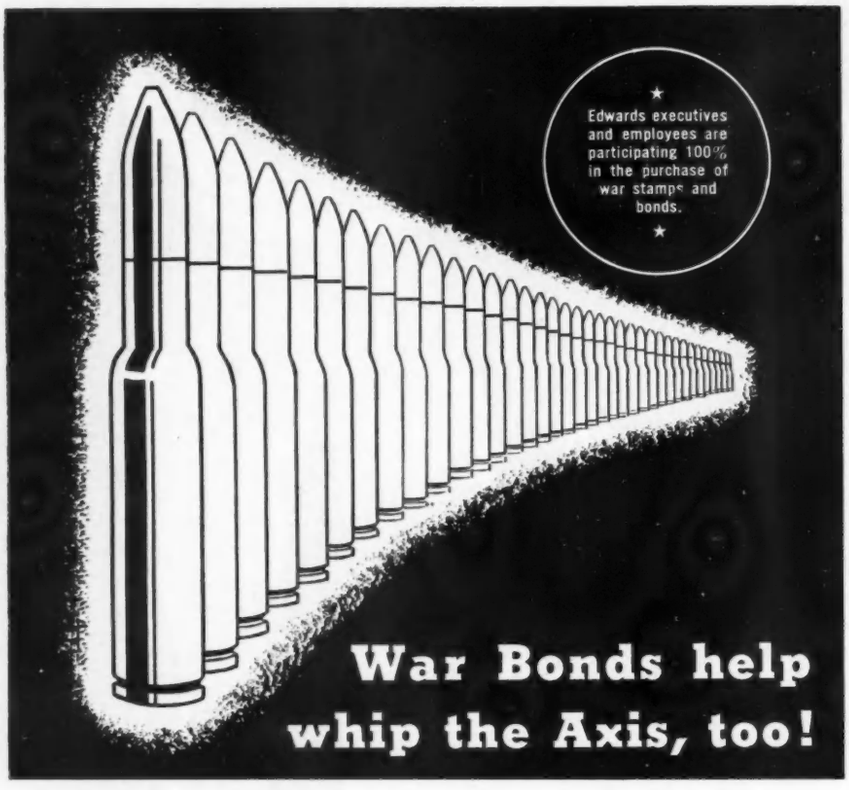
Cylinder blocks.. (per cyl.)	$25.00
Cylinder heads .....(ea.)	12.50
Crankshaft (6-cyl. engine) throws and mains..	37.50
Piston pins .....(ea.)	1.25
Camshaft, lobes and mains..(ea.)	12.50
Valve stem	1.25
Oil pump shaft	1.75
Distributor shaft	1.25
Generator shaft	4.50
Starting motor shaft.....	4.50
Wheel spindles	3.75
Steering knuckle pin.....	1.75
Brake drum (heavy bus)..	22.50
Water pump shaft.....	3.50
Spring shackle bolts.....	1.25

The brake drums, referred to above, gave 220,000 miles of service, whereas the first wear was 80,000 miles. The driver was not advised of the plating of the drums and did not report any difference in operation of the brakes.

Cummins diesel camshaft hard chrome-plated gave more than five times the mileage compared to original life wear.

END

(Please resume your reading on P. 46)


★
Edwards executives and employees are participating 100% in the purchase of war stamps and bonds.
★
War Bonds help whip the Axis, too!

THERE IS ONLY ONE WAY we at Edwards know of to insure a victorious America. That is to back up our fighting men by producing whatever is needed to the best of our ability . . .

and never forgetting that U. S. War Savings Stamps and Bonds battle, too. We're buying them. How about you?

Edwards is building a number of things besides trailers that Uncle Sam needs. And it is still building trailers according to needs and priorities.

EDWARDS TRAILERS

EDWARDS IRON WORKS, INC. SOUTH BEND, INDIANA

Studebaker Service School Established for Women

Approximately 30 women are now receiving a 10-week course in the Studebaker Service School, according to K. B. Elliott, vice-president in charge of sales. These women trainees are members of the Motor Corps of a Red Cross chapter. The school has been conducting a study of service operations that can be performed by women, and methods to be used in teaching them servicing techniques.

Carbon dioxide fire extinguishers and extinguishing systems manufactured by Walter Kidde & Co. and previously known as "Lux", "Luxomatic", "Selex", etc., will henceforth all be labelled "Kiddie". Sole exceptions are the "Rich" and "Richaudio" marine detecting systems. Shown here is A. M. Doxsey, Kidde vice-president, placing the new label on a twenty pound portable model

IT TAKES A LOT OF EVERYTHING TO WIN A WAR

Conserve – only order as you need

WAGNER LOCKHEED HYDRAULIC BRAKE PARTS and FLUID

THIS is a big war—and it takes a lot of everything including a lot of hydraulic brake parts and fluid to equip and maintain the cars, trucks, tanks, and planes required by the United Nations. It also takes a lot of parts and fluid for proper maintenance of the brakes on cars and trucks essential to people engaged in war industries, plus civilian needs.

You can help win the war by being conservative in your purchases, and only ordering as you need material. You can also help by turning in old aluminum pistons when you wish to procure new ones. This is a time for team work.

Possibly you may occasionally find that your Wagner jobber may not be able to immediately fill all of your orders for certain Lockheed Parts, or you may not get all the No. 21 Fluid you want at one time. *War needs come first.*

H42-27

AUTOMOTIVE PARTS DIVISION

Wagner Electric Corporation

SAINT LOUIS, MO. U. S. A.

HUBER'S MILE PINCHERS MULTIPLY TIRE MILEAGE

(CONTINUED FROM PAGE 47)

Since the inside tires of the tractor and trailer get the most wear, sound tires should be kept on these wheels, by rotation. We match tires both as to weight and diameter. A constant record is kept of each truck and each tire. When a driver has a blowout of, say, his left, outside rear tire, he reports the number and we look it up, find its size and diameter and match it almost exactly with a replacement.

This record shows the complete history of the tire. Every time a truck comes in off a trip, the tires are checked with an air gauge, measured with a diameter stick and with a tread depth gauge and generally inspected. All these facts, plus the mileage, are recorded on the tire's record card.

If repairs are necessary they are made at this time. We vulcanize rather than use inside patches or re-liners, because liners not only won't stand the heavy loads but they unbalance the tire and cause uneven wear and, if on the front, poor steering.

Particular attention is being given to tire valves and valve stems since stem failure can flatten a tire just as quickly as a broken bottle. And broken bottles and glass generally cause more tire trouble than anything else.

Since tire rationing began we check every tire pressure gauge daily. We take the pressure of several different size tires and check each reading against a master tire gauge. The master is sent back to the factory every 60 days, so that we know it is right. After finding one of our gauges 18 lb. off one day, we really believe in checking our gauges.

We figure that eight tubes are cheaper and use a lot less rubber than one tire. Therefore, it is more economical and more patriotic to save a tire by keeping a good tube in it, rather than try to get by with a swollen, patched tube. Every new tire starts out with a new tube, so it has a fair chance to give its full mileage.

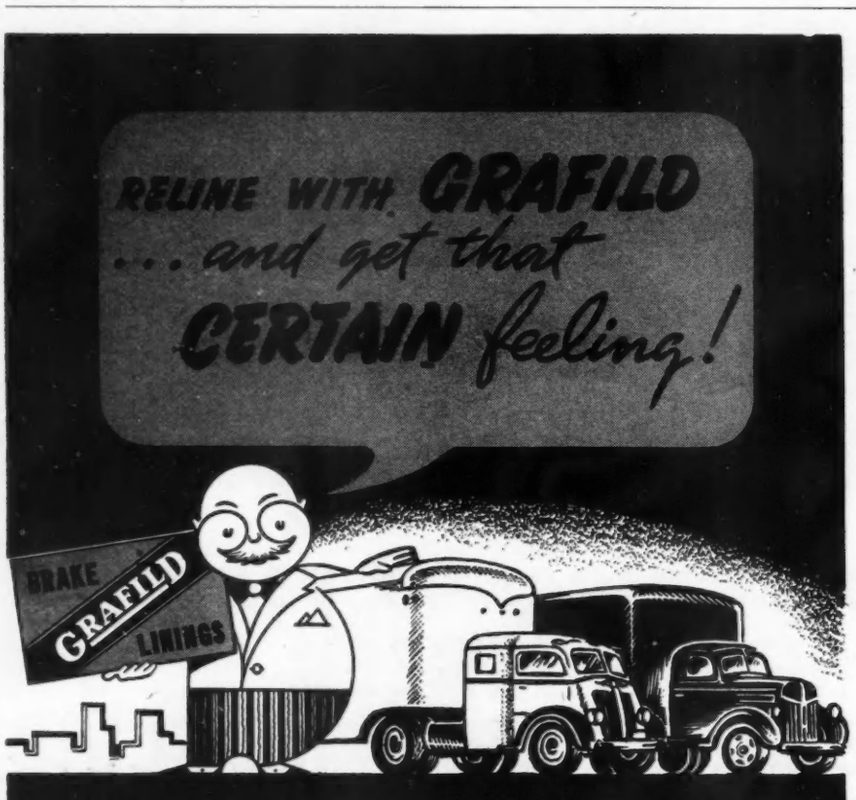
After a tire has been recapped two or three times, and the carcass indicates it is on its last legs, the tire is prominently marked "B.O." for "Bad Order" and put on as a spare. Drivers, seeing the "B.O." marking, know that when they put that tire on a wheel they must drive slowly and keep an eye out for trouble.

With a tire man for each shift and everybody else on the alert, we have cut down tire failures to as great an extent as the hazards of the road will allow and utmost care permit.

Every front end is checked every time the unit comes in after each trip. We drive the tractor or truck up on the front wheel alignment gauge just as naturally as checking oil. We also inspect for missing wheel balancers, at this time. In addition, each driver indicates on his trip report if he notices anything out of line or unbalanced.

The big factor in conserving equipment, as well as tires, is keeping down speed. On a mountain run, such as our Knoxville-Atlanta run, speed can be costly; not only by making accidents more likely but by wearing out tires and engines, putting

(TURN TO PAGE 104, PLEASE)



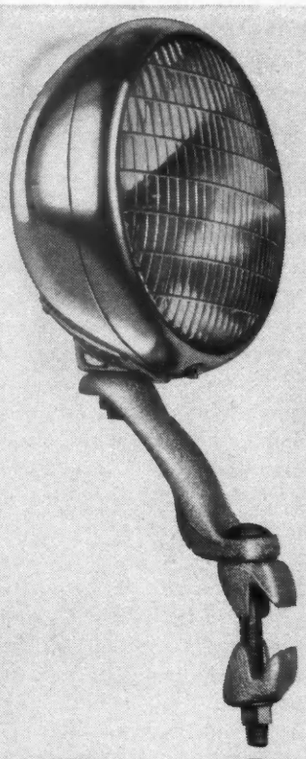
CONSERVATION . . . VITAL TO VICTORY!

Smooth, positive brake action is essential to longer tire and vehicle life. And that's the kind of conservation that will contribute to victory.

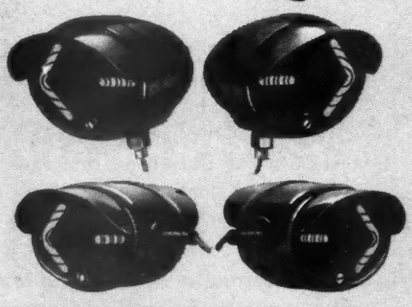
To insure such brake control, reline with GRAFILD . . . the complete line of Friction Materials that are scientifically engineered for each type of brake. For only then can you have that *certain* feeling.

WORLD BESTOS CORP., Paterson, New Jersey

ROLLS • SETS • SLABS • BLOCKS • CLUTCH FACINGS

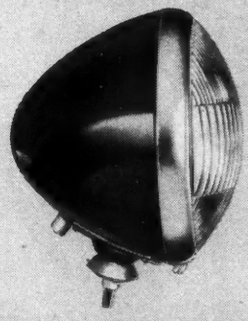


GUIDE STIMSONITE REFLECTORS—Manufactured with plastic lens, these sturdy reflectors are important safety equipment for all fleets. Universal in application.



GUIDE DIRECTIONAL SIGNALS—Solidly built turn-indicator systems that give easily visible signals. Choice of single- or double-face lamps and several types of mounting.

BEACONS OF SAFETY For Your Fleet



GUIDE UNIVERSAL REPLACEMENT HEADLAMP ASSEMBLIES—Dependable, sturdy, complete headlamp assemblies for replacement of damaged or worn-out equipment.

GUIDE AUXILIARY LAMPS

Guide auxiliary lighting equipment helps take the driving strain off long hauls . . . adds to the safety of fleet operations in these days when motor transport is so vital to the nation's war effort.

There are Guide Auxiliary Lamps designed to improve visibility in "heavy" weather, with pre-focused bulbs, correct lenses, and special bulb caps to cut off the stray beams that cause blinding reflections from moisture particles. Available in many types, they have proved their effectiveness and dependability in hard fleet service.

Other important aids to fleet safety are Guide Driving and Passing Lamps . . . popular with drivers who want to "keep 'em rolling" without taking risks.

See your Guide jobber for lighting equipment to meet your requirements.

Guide LAMP

Division of General Motors Corporation
Anderson, Indiana

UNITED SERVICE MOTORS

Guide products and service parts are available through independent United Motors distributors served by 20 conveniently located warehouses. This wide availability of parts and service is important to truck and bus operators.

WORLD'S LARGEST MANUFACTURER OF AUTOMOTIVE LIGHTING EQUIPMENT

HUBER'S MILE PINCHERS MULTIPLY TIRE MILEAGE

(CONTINUED FROM PAGE 102)

extra strain on bodies, transmissions and axles, and eating up gas and oil.

All units are governed to a maximum of 42 miles per hour. The drivers are instructed to keep under 40 and we have several ways of keeping tab on them:

1. Ben Clark, our assistant director of safety and personnel, and his assistants cruise in a road car which is not marked so that drivers can't tell when they are being spotted.

2. Each trip is carefully scheduled to give the driver plenty of time but none to kill.

3. Our gas and oil report cards show immediately if a driver is speeding, since speed increases gas and oil consumption even when other conditions remain the same.

4. Automatic recording devices are placed in the trailer as just another package and drivers never know when they may be carrying one of our two recorders.

Cooperation through education, however, is the greatest help in cutting down speed.

The reason we set the governors at 42, although the speed limit is 40, is that we found the drivers were running against the governor when it was set at 40 and pushing continually to maintain speed. Running against the governor wastes gas and oil. With governors set at 42 and drivers under strict orders to keep under 40 we find they obey their instructions, especially going downhill with heavy loads.

Manually operated overdrives on our trucks make it possible to take advantage of light loads and level pulls and to disconnect on hills and with heavy loads. An automatic overdrive would be useless under present limits unless set at too low a level for efficient operation under mountain conditions.

Right now we are getting ready for the different conditions of winter driving. Summer wear and tear is being repaired and particular attention is being paid to radiators.

We don't have much radiator work because we've put on an intensive inspection and flushing campaign ever since the war began. Every three months each radiator is flushed with a good cleaning compound and tested under pressure for leaks. Damaged radiators are sent out to be repaired. Each fall and spring the entire cooling system is cleaned and checked. Radiator hose is replaced if necessary. Water pumps are rebuilt and replaced. Fan belts are checked and tightened. Now we are replacing heaters which were cleaned and inspected during the summer. Exhaust manifolds, gaskets, mufflers and connections are checked and tightened.

Permanent anti-freeze saved from last winter and carefully strained and cleaned is put in some trucks. Alcohol is used in others. Bodies are tightened and painted. We're paying more attention now to body and fender cracks, to save metal. We do all our own body and paint work with brush and spray equipment.

Worn or broken wooden joist ends are sawed off and replaced with short pieces of timber bolted on in a homemade steel bracket, so they can be easily and frequently replaced. We make many body supports and other

(TURN TO PAGE 106, PLEASE)

THE PROVEN METHOD of SELECTING BRAKE LINING

Tire shortage makes *correct brake lining doubly important now.* Grabby, ill-balanced brakes grind away the rubber.

GATKE *Custom-Bilt* Brake Blocks and the GATKE System of Brake Lining Selection give *you TOPS in dependable brakes and tire-saving efficiency* —

Correct holding power for *balanced action* . . . smooth, but *positive* stopping *without grabbing* . . . *dependable* braking at *all service* temperatures . . . *no loss of friction* on long grades . . . *prolonged* service with *fewer* adjustments.

This wonderful performance results from *superior qualities of GATKE Brake Blocks, selected for the job on the basis of long experience.*

Hundreds of fleets — *large and small* — operating *every* kind of vehicle *under all kinds* of conditions have *improved brake performance* and increased tire mileage, *eliminated* grabby and noisy brakes and *reduced maintenance expense by using the modern* GATKE System.

What's more, the *Extra Performance* of GATKE Brake Blocks *costs you nothing extra.*

Why not *get all the facts before you decide.* Just ask your GATKE Jobber or write us.

GATKE CORPORATION
228 N. La Salle St. Chicago, Ill.

★
Award for
Excellence
★

ARMY-NAVY PRODUCTION AWARD

for high achievement in the production of war equipment

conferred upon the

LINCOLN ENGINEERING COMPANY

We are proud to announce that we have been awarded the Army and Navy "E"—the coveted emblem conferred by the United States Army and Navy for high achievement in the production of war equipment.

This achievement has resulted from the combined efforts of every man and woman in the employ of the Lincoln Engineering Company. The "E" pin which each person in our organization wears, and the "E" pennant that flies over the Lincoln plant serve as silent inspiration toward greater and greater accomplishment until the time of final and complete Victory.

★

LINCOLN ENGINEERING COMPANY, ST. LOUIS, MO., U. S. A.

Pioneer Builders of Engineered Lubricating Equipment

42-100

★ ★ ★ ★ ★ ★ ★

HUBER'S MILE PINCHERS MULTIPLY TIRE MILEAGE

(CONTINUED FROM PAGE 104)

parts, repair broken brackets and supports with our acetylene and electric arc welding equipment.

The starter-generator-electrical system gets a special fall going over. Using a high grade electrical analyzer we go over every truck, checking the load on every unit.

The voltage regulator gets special treatment because it can be a source of trouble if not kept adjusted properly. Since we have the full equipment, we break the seal and make adjustments according to factory specifications. This should not be attempted without the complete electrical equipment. Current output should be stepped up to take care of the extra load in the cold weather.

Generators kept clean and properly lubricated not only last longer but save batteries. A constant check is kept on the belt that drives the generator to see that it is properly adjusted. We have the equipment for checking and testing generators and make our own repairs except for armature rewinding, which is done in Knoxville. When we rebuild a generator we make sure the bushing permits the shaft to rotate freely and that the brushes are renewed.

Batteries are tested regularly on every trip end. Water level is kept up, and batteries showing low gravity are replaced and recharged. Care really pays with batteries.

Winter puts an extra load on the starter and it is given a thorough going over. Load tests show if it needs special attention. Coils are checked, as is ignition and light wiring.

Of course lights are checked every trip. Windshield wipers get a special winter going over.

In addition to these practices here are a few special war "savings":

We've taken out the right hand seat from all our cabs. This gives us an extra to use later on when the driver's seat wears out.

We get the last mile out of brake linings by keeping up more frequent inspections.

We check wheel bearings twice as often as formerly.

We used to check valve adjustments once a month; now we do it every week and generally as often as we have the time.

In some cases where transmission and differential gears are worn and noisy we get the most wear out of them but keep closer check to forestall breakdowns.

Every wheel is now checked every time a unit is gassed and loaded. Our saving in lug bolts is one of our biggest items. You know how many lug bolts a fleet can lose in the course of a year, and that's a lot of good metal. A lug wrench is standard equipment for all of us.

We always have watched grease, now we're twice as careful. By keeping records we keep our units properly lubricated without dripping grease all over the highways.

And our gas and oil records are constantly scrutinized to supplement our inspections of carburetors, gas and oil pumps to save whenever possible.

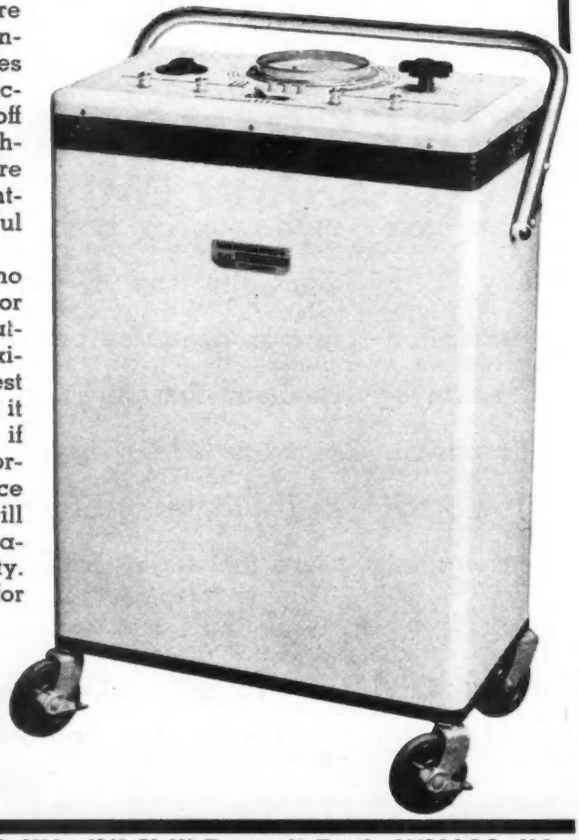
With a big operation such as that of Huber & Huber records become

(TURN TO PAGE 108, PLEASE)

WEIDENHOFF
CYCLONE *Battery* CHARGER

Conserving batteries is of utmost importance in the War effort. This modern, fast, reliable charger does the work. When properly used no danger of overcharging or overheating — usual causes of shortening battery life. Four scales on meter —push button controlled—easy to use. Meter can be used without interfering with charger operation. By bringing voltage up to normal a fully charged battery need not be temporarily used in place of car battery, when setting voltage regulators. A time saver.

Built-in battery analyzer gives immediate and accurate indications of battery condition. Invaluable to the fleet operator for the servicing of storage batteries. All of the essential parts —rectifier unit, transformer, meter, shunts, automatic overload protection, time clock, leads, etc., are based on sound engineering principles which have characterized Weidenhoff equipment throughout the years. Entire charging unit mounted in a beautiful cabinet.



You can get no better equipment for keeping your batteries up to maximum condition. Best of all, you can get it without priorities if you place your order quickly. Once you use it you will understand the reason for its popularity. Full particulars for the asking.

AUTOMOTIVE SERVICE WEIDENHOFF EQUIPMENT AVIATION

JOSEPH WEIDENHOFF, INC., 4340-58 W. Roosevelt Road, CHICAGO, ILL.

MARGIN of SAFETY
at crushing pressure

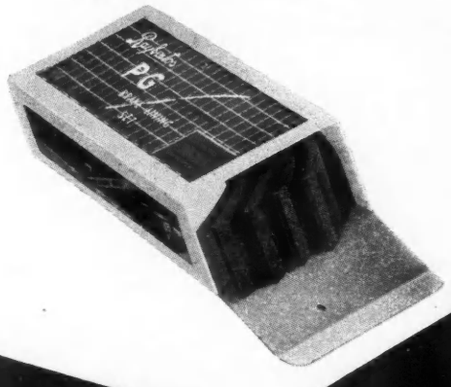
Down, deep down, at crushing pressure, the deep sea diver proves with his life the margin of safety of his diving suit.

The same vital principle of safety in reserve is one reason for the outstanding performance of Raybestos Heavy Duty Brake Lining. It is built with a 300 per cent margin of safety. It withstands speeds, loads and constant temperatures far greater than encountered under the most severe operating conditions.

More than ever your trucks need Raybestos margin of safety performance because they must work harder and live longer

Give it to them.

THE RAYBESTOS DIVISION
of Raybestos-Manhattan, Inc
BRIDGEPORT, CONN.



Join the U.S. TRUCK CONSERVATION CORPS

Raybestos
AMERICA'S BIGGEST SELLING
BRAKE LINING

YOUR 2 BEST FRIENDS for HIGHWAY SAFETY

BRAKE LINING, CLUTCH FACINGS, FAN BELTS, HOSE • FOR CARS, TRUCKS, BUSES, TRACTORS • ON THE WAR AND CIVILIAN FRONTS

HUBER'S MILE PINCHERS MULTIPLY TIRE MILEAGE

(CONTINUED FROM PAGE 106)

more important. They're a tool toward preventive maintenance, more necessary than ever these days.

Huber & Huber keeps the following records, all of which are self-explanatory:

1. Driver's round trip report in duplicate. This shows truck and trailer number, speedometer reading in and out, load, gas, oil, leaving time, arriving time, bills ready, total miles, total weight, total gas, total oil and running time. Space is provided for noting road expenses, tire changes, delays or accidents and the following: "equipment in good condition—except," with plenty of space for the exceptions to be noted. On the back of this report the garage fills in the material, labor and time required to make necessary repairs, greasing, trailer work, and whether parts came from stock (with stock number) or were bought outside and old part turned in.

2. Shop record of material and supplies received, used and on hand, with space for indicating number of truck on which part was used, date and whether new or used.

3. A huge yellow and black shop card which reads in big black type: "Don't Load Until OK'd by Garage." This gives truck and trailer numbers, date, remarks and place for OK and time. It is hung in a conspicuous place on the truck.

4. Daily oil and grease report in duplicate shows truck number, speedometer readings, kind of oil, change, check, tool-box, grease fifth wheel, differential, wheel bearings, oil generator, grease water pump, grease through-out, check radiator, grease chassis, check transmission, install filter and all oil and grease received by the shop that day.

5. Shop card. All work which requires over five minutes time must be recorded in and out on the man's card with details of work done, order number, shift, overtime and pay.

6. Individual tire record for each tire indicates the brand, serial number, cost, type, invoice date, size, space for each vehicle number, wheel position, dates on and off, odometer readings on and off, mileage, cause of removal in each case and disposition, date of repair, cost of repair, cause of permanent removal from service, total mileage and cost per mile. In addition the diameter and weight at various stages is recorded to permit easy mating on dual wheels.

7. Card file of major parts such as transmissions, differentials, motors, etc., with record of work done, parts used, mileage and costs.

Some of these things are good practice anytime, all of them are necessary and patriotic in war time.

In December Mr. O'Neal will discuss in detail how gas and oil economy is being increased, and tell the story of engine maintenance and salvage as it applies to Huber & Huber Motor Express.

END

(Please resume your reading on P. 48)

—RUSTBUSTER—

Semi-Permanent Rustproofing

for COOLING SYSTEMS

also removes existing rust and scale

Without Draining..Without Flushing..Without Labor

RUSTBUSTER gives to inner surfaces of cooling systems the same protection paint gives to external surfaces .... depending upon usage and local water conditions, it is effective for six months to a year, regardless of the amount of water added.

. . . RUSTBUSTER is simply poured in *and left in*—it works while the truck, car, or bus is operated.

. . . RUSTBUSTER assures clean water, free circulation and complete cooling . . . results are better gas and oil mileage, less carbon, fewer repairs and overhauls.

. . . RUSTBUSTER is usually made part of preventative service schedules, each unit treated once in the spring, once in the fall . . . or after overhauls and at mileage servicing.

. . . RUSTBUSTER cannot harm hose connections, gaskets, water pumps, lacquer or enameled finishes . . . has no harmful fumes . . . is perfectly safe in contact with hands and skin.

. . . RUSTBUSTER is effective with stop leak powders or solutions, will not disturb repairs already made.

. . . RUSTBUSTER acts as retardant when used with alcohols or methanols causing them to last longer . . . replaces exhausted inhibitors in all types of anti-freeze . . . maintains high alkalinity.

RUSTBUSTER has been thoroughly tested by various laboratories and by hundreds of the best operated fleets and traction companies during the past five years . . . thousands of passenger cars, too. Today, with every truck or bus irreplaceable the best care of cooling systems is a positive "must" . . . and for such care RUSTBUSTER is your best solution.

For further information, technical data,

→ SEND THE COUPON . . . NOW ←

CANNON CHEMICAL COMPANY, INC.
210 Broadway, Everett, Mass.

Gentlemen:

Please send circular technical data regarding RUSTBUSTER.

NAME ..... TITLE.....

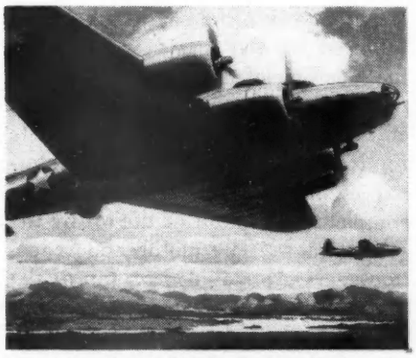
COMPANY NAME .....

ADDRESS .....

NO. OF CARS.....TRUCKS.....BUSES.....

Tens of thousands of big Studebaker Trucks move the men and supplies of war

AT the debarkation points and on the supply lines—at the fighting fronts and on the rough terrain behind them—big, multiple-drive Studebaker trucks are writing brilliant new chapters of transport history every day of this war.



Studebaker builds Wright Cyclone Engines for the Boeing Flying Fortress, America's invincible dreadnaught of the skies

Tens of thousands of them are on the job. And these rugged war trucks are pouring out of Studebaker factories in so steady a stream that tens of thousands more soon will be moving the men and supplies of war on the United Nations' fighting fronts.

From builder of commercial trucks in peacetime, to one of the largest makers of military trucks in wartime, is a logical transition for America's oldest manufacturer of highway transportation. For the sixth time in a national emergency, Studebaker has answered the Government's call for the production of army transport on a large scale. And when decisive victory is achieved, finer, more economical Studebaker trucks than ever will be available for civilian use.

Today, Studebaker's world-famous craftsmen are bringing a new and more significant meaning to the traditional Studebaker watchword—*always give more than you promise.* The job they're doing makes us proud of our assignments in the arming of our Nation and its Allies.

Studebaker's 90th Anniversary

1852 • 1942

★ BUY U. S. WAR BONDS ★

STREAMLINED WASHING

(CONTINUED FROM PAGE 49)

in the cab until the wash has been completed. As the truck enters the wash rack it passes through the first spray arch. This wetting down operation is very thorough and helps to loosen the dirt and grease. The water supplied to the first spray arch and to the high pressure and rinse hoses is controlled at 120 deg. F. After passing through the spray arch, the truck stops alongside the pits where the axles, wheels and frame members, as well as the underside of the tank, are washed. Two men work in each pit. In addition to the soap solution, the washer uses furnace oil to remove the heavier grease deposits. The men have the usual long-handled, rectangular, stiff-bristled brushes, fender brushes, and large size spoke brushes.

When the soaping and brushing of the chassis have been completed, the truck is moved forward and stopped between the first two platforms. Here the upper portions of the cab, tank and catwalks are thoroughly scrubbed by two men, one man working from each platform. The seventh man takes care of the front of the cab, the headlights and the windshield, and manipulates the rinse valve as the truck moves forward through the rinse spray arch to the second set of platforms. Here the excess water is removed by compressed air and the truck is released for service. The seventh man also passes judgment on the job, taking care of small points that may have been missed.

We have mentioned the soap spray guns and the soap solution. It would be well to describe the equipment which supplies the soap solution to the wash rack. Housed in a room adjacent to the wash rack is a 1700-gal. hot water generator, containing a heat exchanger and a control unit designed to supply a large volume of hot water at approximately 160 deg.; a cold water and a hot water centrifugal pump; a tempered water control; a 300-lb., three-cylinder car washing pump; an altitude valve connected to the cold water supply pump; a steam pressure regulating valve and the soap mixing machinery. All motors are of vapor-proof construction and are controlled by oil bath switches.

The soap tank itself is a vertical 400-gal. unit mounted on legs and equipped with gauge glasses used to check the quantity of soap solution on hand. Attached to the tank is a 20-gal.-per-minute centrifugal pump which is used both for mixing and for the distribution of soap throughout the wash racks.

When a batch of soap is to be made the valves are so set that the mixture is pumped out of the bottom and back in the side of the tank. The batch of soap consists of 10 gal. of liquid soap, 80 gal. of furnace oil and 160 gal. of warm water. The furnace oil is pumped into the soap tank and is followed by the liquid soap. After the blending of the two is completed, the tempered water is added and the entire mixture is allowed to circulate for from 10 to 15 minutes. An internal agitator also is used to insure complete absorption of the oil by the soapy water. The motor and reduction gears are mounted on top of the soap tank, driving two propellers immersed in the solution. An edge-type filter is located ahead of the pump

(TURN TO PAGE 112, PLEASE)

Brake Drum Metal is Precious!

It is our duty to conserve this vital war material for:

TANKS, GUNS, BOMBS,—*AND* SHIPS TO TAKE THEM TO FAR OFF PLACES! Let's think of each extra mile accumulated on our brake drums as pushing the Japs and Nazis back one mile closer to Tokyo and Berlin!

Efficient maintenance and close supervision has always been profitable—but now as never before, it demands unceasing vigilance. Observance of the following suggestions will eliminate the most common causes of brake drum wastage and failure.

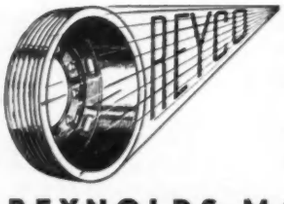
1 **Balanced Brakes.** Uniform braking should be maintained on all wheels at all times. This should be the keynote of the entire brake program and the yardstick by which every brake part is purchased and every work order issued.

2 **Full Contact of Lining Surface.** Partial contact, especially shoes riding on one end is one of the most prevalent causes of excessive and destructive heat with resulting damage and failure of brake drums.

3 **Brake Drum Shoulder Clearance.** Rubbing of edge of lining or shoes against shoulder of the drum is another common cause for excessive friction and brake drum failure and strangely, the existence of this condition is usually undetected. Watch for worn bearings.

4 **Abrasives.** Never let lining rivets become exposed and in direct contact with brake drum. Keep brakes clean and free from foreign material which might act as a cutting agent against drums and lining.

5 **Drum Turning.** Turning or grinding distorted or grooved drums which were not sufficiently strong at the start is costly and wasteful and undermines the efficiency of the brakes on other wheels. Before resurfacing, it should first be determined that ample stock will be retained to assure rigidity and true dimensions under braking pressure and frictional heat.



HEAVY DUTY BRAKE DRUMS

Replace wornout, excessively grooved, or weak drums with REYCO, the one brake drum that will wear longer and resist more heat than any other. Also the one drum strong enough to back up your brakes and enable your brakes and brake linings to deliver their maximum efficiency.

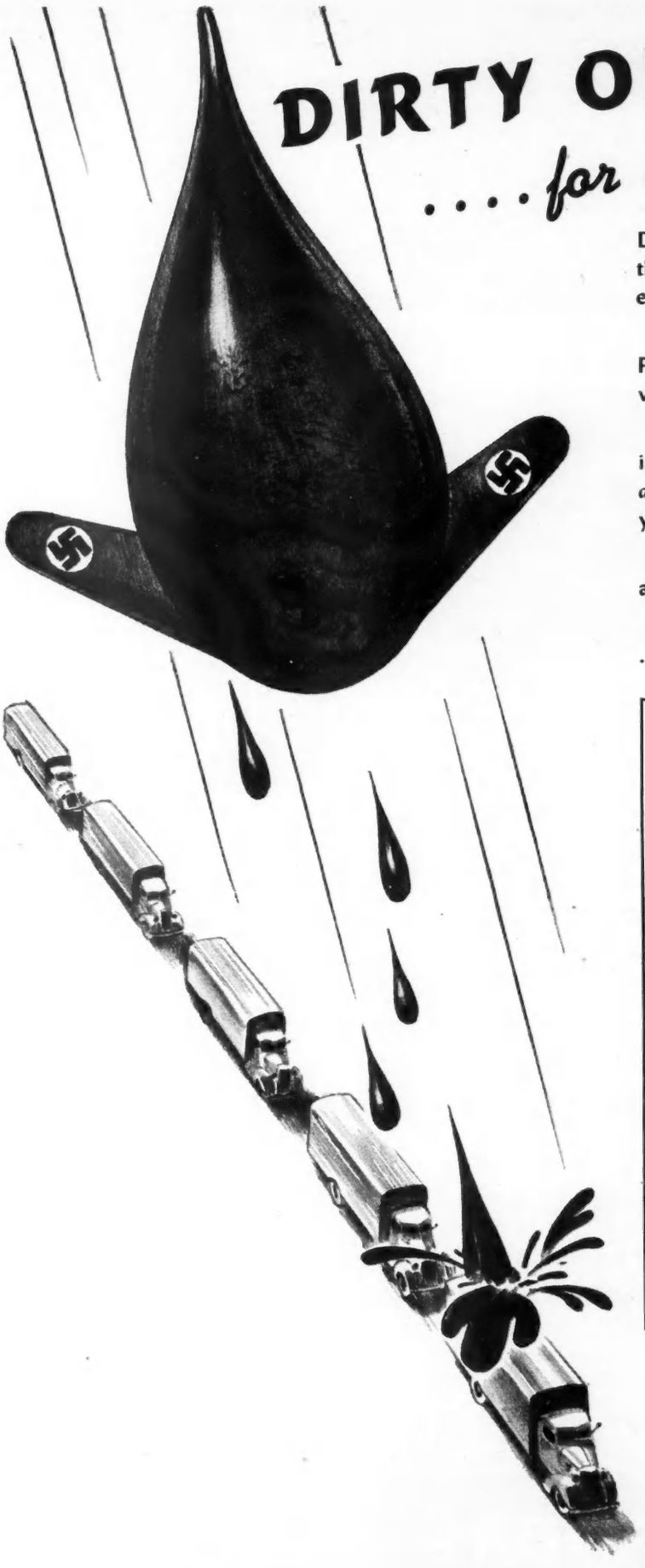
REYNOLDS MANUFACTURING COMPANY

Springfield, Missouri

• REYCO •

BRAKE DRUMS

DIRTY OIL "pays off" ....for the enemy



Dirty oil can write "finis" to your trucks—put them out of commission just as effectively as an enemy bomb.

So keep oil clean. Keep it clean with *genuine* Purolators. Help yourself and Uncle Sam win the vital battle of transportation.

Every time the dip-stick shows dirt in the oil, install a new *genuine* Purolator element *immediately.* Don't give dirty oil a chance to sabotage your engines.

Genuine Purolator replacement elements list at $1 and up.

Purolator Products, Inc., Newark, New Jersey ...founder and leader in the oil filter industry.

KEEP IT CLEAN with PUROLATOR

STREAMLINED WASHING

(CONTINUED FROM PAGE 110)

and is used to remove solid matter from the solution.

After the blending has been completed, the re-cycling valve is closed and the solution is circulated around the entire wash rack, returning to the soap tank through a pressure regulating valve which maintains a constant line pressure of 35 lb.

Located at some distance from the wash and lubrication bay is our waste water separator. This is a concrete and metal arrangement of tanks and basins measuring approximately 40 x 12 ft., with a depth of about 8 ft. Its purpose is to separate and accumulate the dirt and oil which would normally cause stoppage of the sewage system and contaminate the river. It also is economical in operation inasmuch as it returns to us for reuse approximately 95 per cent of the furnace oil used in the entire washing process. The reclaimed furnace oil is stored in a tank equipped with a centrifugal pump and piped directly to the soap-mixing equipment. By merely opening a valve and starting the motor, the oil can be pumped from this tank directly into the soap tank when a new batch of soap solution is being made.

The hand wash rack is designed to accommodate our van trucks which are too high to pass under the U-pipes of the streamlined rack. This rack uses the same equipment as our mechanical wash rack, namely, soap solution nozzles, high pressure nozzles and speed wash brushes connected so that warm water flows through the handles and out of the bristles of the brush. It takes two men about 1 hour to wash a truck on this rack.

END

(Please resume your reading on P. 50)

NOT OVER 35!

BUT HOW DO YOU INTEND TO ABIDE BY THIS NEW REGULATION . . . AND CONTROL YOUR DRIVERS . . . **UNLESS YOU INSTALL DEPENDABLE GOVERNORS WHICH AUTOMATICALLY HOLD YOUR TRUCKS, BUSES OR CARS TO THE LIMIT PRESCRIBED BY WASHINGTON?**

Take No Chances of Violating the Order

Install . . .

HOOF *full power* GOVERNORS

SAVE *tires . . . vehicles . . . engines . . . gas . . . oil*

Booklet "Everything Under Control" mailed upon request. Send for it today.

HOOF PRODUCTS COMPANY • CHICAGO, ILL.

HOOF GOVERNORS

Stephen J. Benn has been appointed chief engineer of the Globe Hoist Co., Phila., Pa. Previously he was mechanical engineer for Brunner Mfg. Co., and chief engineer at Merchant & Evans Co.

A New Transmission Book by Heldt

A new book on "Torque Converters or Transmissions" has just been published by P. M. Heldt, Engineering Editor, *Automotive & Aviation Industries*, Member, Society of Automotive Engineers.

This book is probably the only one written in the English language devoted solely to the subject of transmissions or torque converters. Profusely illustrated, it covers the design of all types of transmissions for use with combustion engines in road and rail vehicles, tractors and locomotives. It is divided into seventeen sections covering mechanical, hydraulic, electric, pneumatic, differential, stepped and continuously-variable types of transmission.

In the case of conventional transmissions, an effort has been made to go into considerable detail as regards points in design, while in the case of the newer and less familiar types, the text is largely restricted to an explanation of the operating principles and to a statement of the advantages and disadvantages of the particular type.

This book should prove useful not only to designing engineers, but also to students, to executives who must make decisions regarding types of transmissions to be used in commercial services, and to the many whose duties include the inspection, testing, servicing and repairing of automotive transmissions.

Published by P. M. Heldt, Nyack, N. Y. Price, $4.00.

★ UNCLE SAM ★

Wants A WAR BOND MESSAGE

On Every Truck ★ For the Duration

The decals illustrated below can be furnished *immediately.* Or our art department can illustrate and develop your ideas, whichever you prefer. But in any event, *DO IT NOW!*

"Target" design is furnished in 5 sizes: 3¾" x 6½"; 7" x 12⅜"; 11¼" x 20½" 13¼" x 24" and 18¾" x 34".

"V" Design 18" x 14½"

"Strip" design—3" x 21"

Many of the country's largest fleets have been using Permalux Kolorfilm Decals for years. Perhaps your fleet is among them. They know that Permalux is made with duPont Dulux—that it is simply and easily applied with water—that it needs no protective top coat—that it remains flexible in storage—and that it is "DURABLE FOR THE DURATION."

The cost is very small (probably well under a dollar per truck), and a WAR BOND DECAL on your trucks is just one more good reason why as "rolling billboards" they are helpful to the war effort. *Write us today* for complete details and prices.

THE PERMALUX COMPANY
900 - 10 W. Lake St., CHICAGO, ILLINOIS

Permalux

"THE SIGN OF PERMANENT IDENTITY"

Transportation Competition Wholesome, Experts Say

Report states Highway users pay their way and evils of competition are exaggerated

The amount and the evils of competition between various American transportation systems have been greatly exaggerated and such competition as exists is in the public interest are among conclusions of three nationally-known transportation experts in a study on "Transportation in the Public Interest" recently released in Washington, D. C.

Grover C. Dillman, president of the Michigan College of Mining and Technology, H. E. Stocker, Professor of Transportation, New York University, and John S. Worley, professor of Transportation Engineering, University of Michigan, constituted an impartial three-man committee of transportation experts commissioned by the National Highway Users Conference in November, 1941, to study and report on the national transportation situation as it relates to the public interest. The study was made to cooperate with the Board of Investigation and Research (on transportation), created by the Federal Transportation Act of 1940.

The committee said that approximately 98 per cent of total ton miles of railroad freight traffic consists of carload lots, much of which is not subject to motor vehicle competition and stated that between 50 per cent and 60 per cent of railroad traffic measured in ton miles is non-competitive. These figures are used in support of the conclusion that each transportation agency has definite services that, under certain conditions, it is better fitted to perform than any other,

"The people are entitled to the best and cheapest transportation they can get, and they must decide what is best and what is cheapest, all things considered," the report declares in rejecting as fallacious the theory that there are well-defined fields in which each type of transportation has continuous inherent advantages over all others.

Claiming sufficient existing transportation facilities for ordinary commerce, the report takes issue with conclusions of a recent study by the National Resources Planning Board that the national transportation system is inadequate and needs reorganization. The committee decided it would be contrary to the public interest to "adopt new and untried schemes" of transportation.

"Highways, rural roads, streets and alleys are responsibilities of municipal, state and federal governments and are necessary and integral parts of the present land economy," the committee stated. In declaring that highways of all nations have been built primarily to facilitate the conduct of business, the three men said, "From the very inception, the individual has had free use thereof to meet his transportation needs, whether they be the movement of merchandise for himself or family, or raw materials or finished products used by him in his business."

Commenting upon public aids to transportation, the report says, "It is very difficult to see where there have been any public aids to transportation through the construction, maintenance and improvement of our highways, since they are a necessary and integral part of our society." It adds, "A comprehensive study of public aids leads to the conclusion that public funds, federal, state or municipal, have as a rule been judiciously spent and in the public interest."

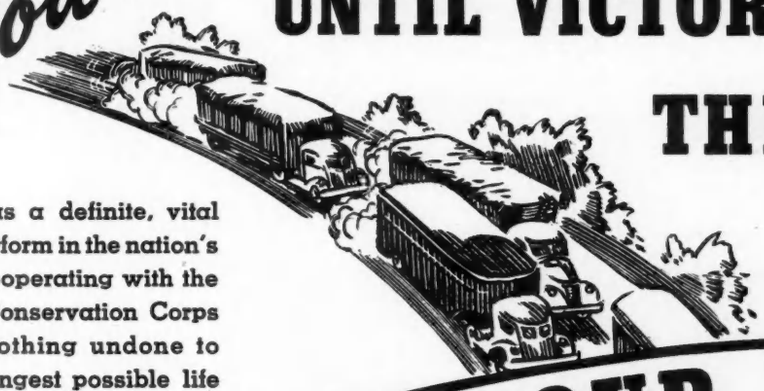
The committee denies that highway transportation has been subsidized and presents information to disprove such charges. It declares that highway users pay more than their fair share of highway taxes and in support of this statement cites the "Public Aids to Transportation" study by Joseph

(Turn to Page 116, Please)

HUNDREDS of ITEMS
to aid in
"MAKING BIG TRUCKS OUT OF LITTLE ONES"
EBERHARD Vehicle HARDWARE
*4849-B BOX DOOR LOCK
*5666 INSIDE DOOR HANDLE
*5607 Slamlite DOOR LOCK
*9643 HOOD FASTENER
*5631 ½ KEY LOCKING BIG VAN LOCK
*565694 SLAM LOCK FOR PANEL DOORS
*6402 EXTRA HEAVY FOOTMAN LOOP
*4855 FOLDING HANDLE
*5602 ½ DOOR HOLDER
*565643 DROP HANDLE FOR PADLOCK
*5614 HEAVY DUTY LOCK ADAPTER
*5492 WING NUT
*5819 REAR DOOR HINGE
*575709 HAND GRIP FOLDING STEP
*5378 AUXILIARY SEAT IRONS
*5630 RECESSED FOLDING HANDLE
When planning to rebuild or remodel trucks to expand their usefulness, consult the Eberhard Catalog listing hundreds of time-tested hardware items.
Available also, is a complete line of running gears, axles, springs, wheels, brakes, etc. for building two and four wheel utility trailers. Write for special literature.
EBERHARD MANUFACTURING CO.
DIVISION OF EASTERN MALLEABLE IRON CO.
CLEVELAND, OHIO

Ahead of You...

A LONG, LONG HAUL UNTIL VICTORY ENDS THE WAR!



Your fleet has a definite, vital function to perform in the nation's war effort. Cooperating with the U. S. Truck Conservation Corps will leave nothing undone to assure the longest possible life and the best possible service from your trucks. It will *save* and *pay* you to

NATIONAL-IZE YOUR FLEET!

For Longer Life... Lower Costs... Better Service

★ National Refining Company's expert engineers are at your service, to give you the full benefit of National's more than 60 years' experience in everything that pertains to motor fuels and lubricants.

The new revolutionary National SAVIT Service makes motors last longer... retards the accumulation of gum and sludge... provides extra protection to bearing surfaces... insures open oil passages... eliminates catalytic action and corrosion... frees valve and ring action... restores power and smoothness ... boosts compression as much as 25% ... saves in gas and oil consumption... gives greater protection and maximum operating efficiency. Write or wire today for a demonstration on your own equipment with no obligation on your part.

NATIONAL SAVIT SERVICE

NATIONAL EN-AR-CO MOTOR OILS and LUBRICANTS

NATIONAL WHITE ROSE GASOLINE

THE NATIONAL REFINING COMPANY · CLEVELAND, OHIO

East of Ohio . . . The Globe Refining Company, Cleveland, Ohio

(CONTINUED FROM PAGE 114)

B. Eastman, now Director of the Office of Defense Transportation.

Highlights of the Committee's Report

"Transportation holds the keys to all industries and to national defense; hence, economical operation and high quality of service are of vital interest to the public."

"Mass production of automotive units—automobiles, trucks, truck-trailers, and buses—for a multitude of purposes operates to effect savings in cost of transportation."

"The vast growth of motor transportation has been due primarily to certain technical and economic advantages. The fact that it has grown so rapidly is proof that those advantages are very real and substantial."

"The advantages of each mode of transportation never maintain a fixed position, since technical improvements continue and, as they do, new equipment and methods of use change the relative economic advantages of motor, rail, water, and air transportation."

"For any legislative body or administrative tribunal to attempt to determine the inherent advantages or fitness and economy of any type of transportation and by legislative enactment confine its operation to a specific field is not in the public interest."

"It is difficult to see where our present transportation agencies, if given a reasonable amount of material for repairs and maintenance and a normal amount of new equipment, will not be able to care for our present war needs."

"Our system of land economy could exist without our railroads but could not exist without highways."

"It is of major importance that no transportation agency be burdened with operating property beyond its reasonable immediate and future needs."

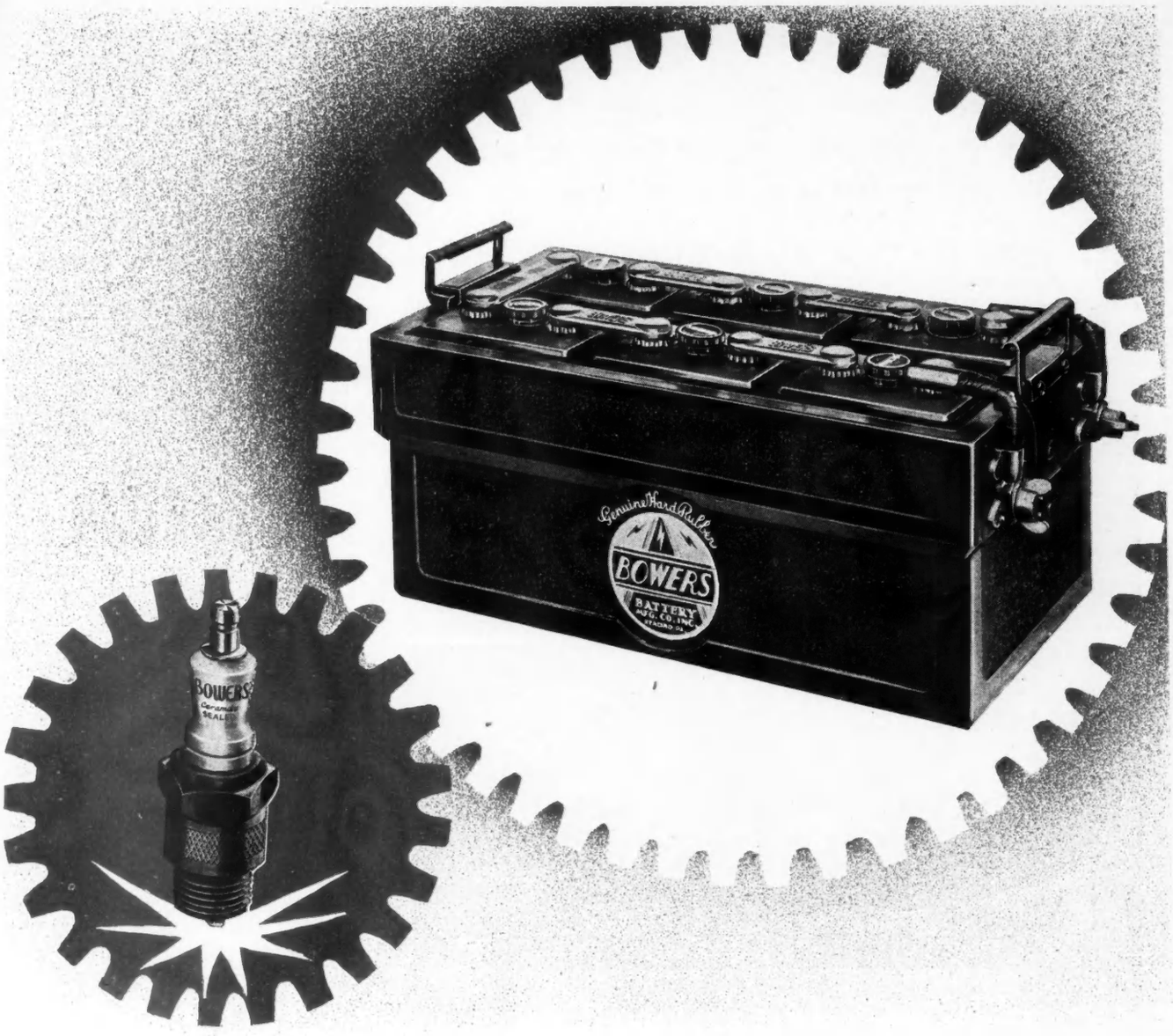
"If 'equality of regulation' is to be adopted as a standard, then by definition it must mean that all carriers will be regulated in the full public interest and not that the regulatory measures will be the same for each type of carrier in order to obtain 'equality' regardless of the public interest."

"The establishment of trade barriers whereby there has not been a free flow of interstate commerce transported by motor vehicles, and the failure of reciprocity in the way of permitting out-of-state cars to come under the same rules and regulations as domestic cars, has not permitted the full enjoyment of all of the services which motor vehicles have been capable of rendering . . . and is not in the public interest."

"We have devoted one hundred years to arduous enactments of regulatory requirements, during which time but little or no thought has been given to repeal of many which have served their purpose or which never had any or much sound value."

CONSERVE IF POSSIBLE
....replace with new when needed
PAT.
PARTS made of critical materials must be conserved to the greatest possible extent. Brass, copper, rubber, aluminum are first demands for victory.
But when fittings, fuel lines, and brake parts are "shot" —there's only one answer—replace with new.
In peace time, fleet operators found it advantageous to use Weatherhead for replacement—the fuel lines and fittings truck builders use on new equipment. In war time the same logic holds. So, when replacements are demanded, be sure to get quality—specify Weatherhead and "Keep 'em rolling."
THE WEATHERHEAD COMPANY • Cleveland, Ohio
WEATHERHEAD
FITTINGS • FUEL LINES • BRAKE PARTS • DASH CONTROLS

With Col. A. Robert Ginsburgh (extreme left) and Lieut. Commander Leslie Jacobs (extreme right) officiating, Mrs. Lena Scott, whose son Robert received the Congressional Medal posthumously for valor at Pearl Harbor, unveils a "Victory Stone" dedicating the new wing at the Tyson Bearing Corp. plant at Massillon, Ohio. Ralph Maxson, president of Tyson (center), and Ensign Anne Bernatitis (right) look on



A WORTHY COMPANION TO BOWERS "DOUBLE-DUTY" BATTERIES

The "Double-Duty" Bowers

Packs the Power

for MORE DEPENDABLE Transportation

A lot of claims are made for fleet batteries. But these busy wartime days are days for ACTION, not mere WORDS. And we're ready to PROVE every claim we've ever made for our "DOUBLE-DUTY" BUS AND TRUCK BATTERY. All that we want you to do is give us an opportunity to put our battery to ACTUAL TEST in your equipment. Give it "the works" and don't spare the horses. Compare its cost figures and length of service with the best battery performance you've ever known. You owe it to yourself to FIND OUT TODAY!

BOWERS

BATTERY AND SPARK PLUG CO.

Main Plant: Reading, Pa. Chicago Plant: Harvey Ill

ICC REPORTS ON BRAKE TESTS

Findings indicate that most brake faults are of a minor character and well within the average mechanic's ability to remedy

A REPORT on the "Effect of Brake Repair and Maintenance on Brake Performance of Commercial Vehicles and Combinations" has been made public by the Interstate Commerce Commission's Bureau of Motor Carriers.

The report presents the results of tests conducted on the brake performance of approximately 616 commercial vehicles and combinations belonging to 178 different carriers. The size of the fleets of these carriers varied from one vehicle to 1320.

The tests were conducted in 1941 in 15 of the 16 Bureau of Motor Carrier districts by the Safety Inspectors of the Bureau assisted by brake manufacturer representatives who acted in a consulting capacity in diagnosing the various brake defects and in making recommendations as to the kind of treatment necessary for remedy or repair of the defect discovered. The inspectors developed their data by testing the vehicles, recommending adjustments and repairs, and then testing them again atter these recommendations had been acted upon. The results of these tests were evaluated in the light of the braking requirements of the motor carrier safety regulations.

The report contains many tabulations resulting from an exhaustive analysis of the findings. The findings are summarized in these conclusions and recommendations:

"1. Of the commercial vehicles tested, single unit trucks showed the highest percentage of compliance with the least number of apparent brake defects. Tractor-semitrailer combinations rank second in order of excellence of braking performance and "other combinations" were the poorest. The data do not show that the superiority of single unit trucks in brake performance or in lack of brake defects is due to a higher standard of maintenance on this type of equipment. This is believed to be because the brake equipment on single unit trucks is normally simpler and, therefore, easier to maintain than the brake equipment on combinations.

"2. Brake defects analyzed on tractor-semitrailers according to fleet size indicated that there was no marked correlation between the standards of brake maintenance and fleet size.

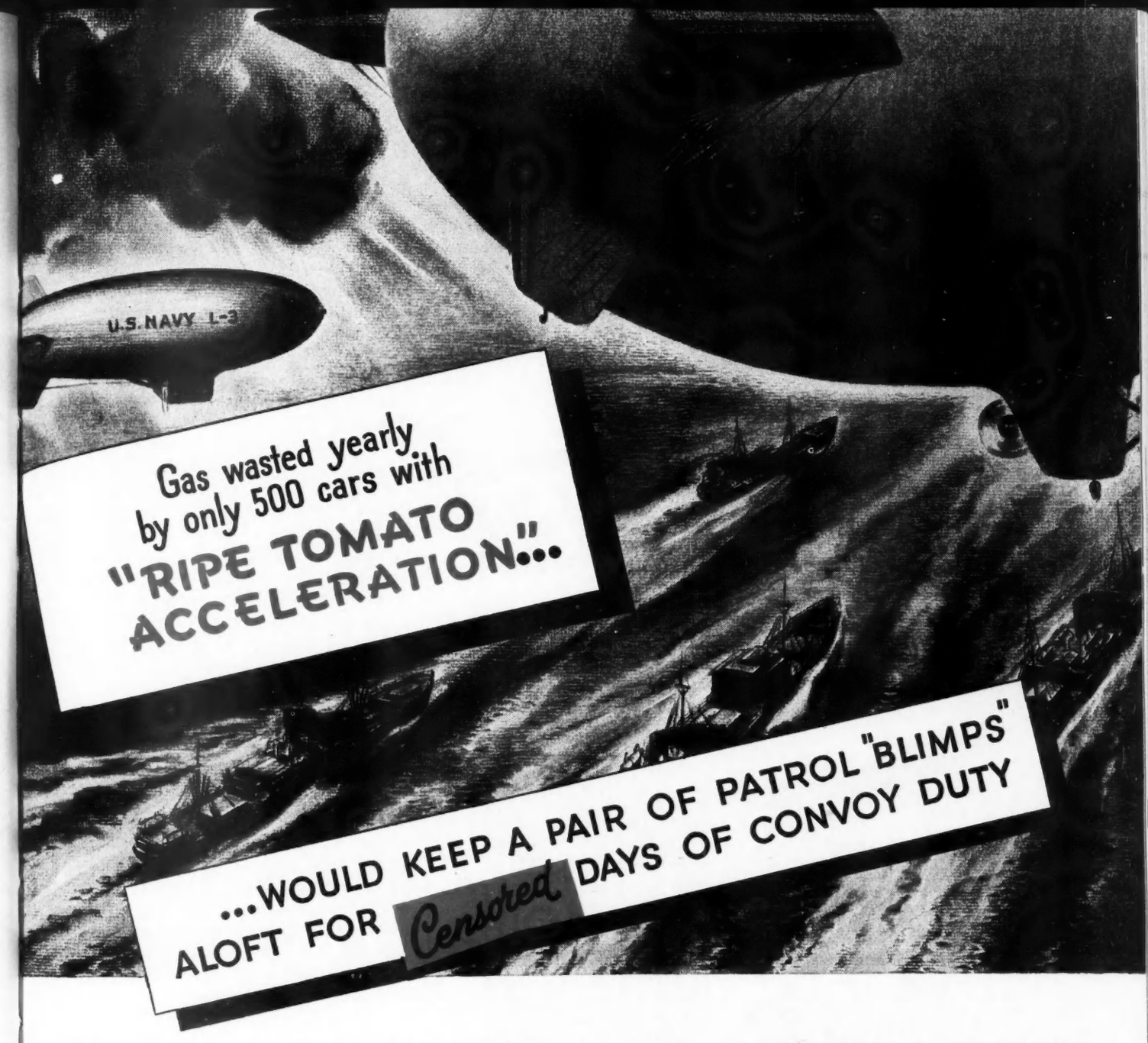
"3. The brake maintenance standards of owner-maintained leased vehicles and of carrier-owned vehicles belonging to carriers making a practice of using leased vehicles are apparently not as good as the brake maintenance practices of carriers owning and maintaining all of their own equipment.

"4. The data indicate a rather close relationship between gross vehicle weights found and the manufacturers'

(TURN TO PAGE 120, PLEASE)

HYGRADE
The Line that Hooks up with PREVENTIVE SERVICE

Hygrade Line
AUTOMOTIVE PRODUCTS
HYGRADE CONTAIN-ALL
CONTAIN-ALL
FOR FORD
Contain-All Kits
FOR FUEL PUMPS & CARBURETORS
"America needs every mile of service its trucks can give."
Office of Defense Transportation
HOW can America's five million motor trucks be made to deliver the mileage required by our existing transportation needs? This is one of today's most serious problems. The solution is Preventive Service—constant inspection, and instant repairs wherever needed.
Do not overlook the importance of the Hygrade Line in connection with Preventive Service.
The reconditioning of auxiliary units by the Hygrade method restores them to original efficiency at minimum cost and labor. Saves general wear-and-tear on the truck. Corrects mechanical troubles before they develop into expensive repairs. Eliminates the necessity of replacing with complete new units. Saves tires. And, lastly, saves gas!
When going over your truck or fleet give special attention to the units covered by the Hygrade Line. It will help you to Keep 'em rolling —Longer!
Leading jobbers everywhere. Or write us for full particulars.
HYGRADE PRODUCTS COMPANY, INC.
35-35 Thirty-fifth St.
Long Island City
N. Y.
SHOCK LINKS
FUEL LINES & FITTINGS
SPEEDOMETER SHAFTING, TIPS AND CASING
Don't BUY Labor, SELL IT!


U.S. NAVY L-3
Gas wasted yearly by only 500 cars with "RIPE TOMATO ACCELERATION"...
...WOULD KEEP A PAIR OF PATROL "BLIMPS" ALOFT FOR Censored DAYS OF CONVOY DUTY

"Blimp" fuel consumption figures can't be published. But it's no secret that a car with "Ripe Tomato Acceleration" often wastes one gallon of gasoline—or more—out of five. 500 such cars waste SIXTY THOUSAND GALLONS of gasoline in a year's normal driving.

Of our millions of cars, one in every four is squandering gasoline and oil through "Ripe Tomato Acceleration"... an enormous waste that can be—and *must* be—stopped!

It's easy to spot this condition. Symptoms of "Ripe Tomato Acceleration" are: squashy accelerator, smoke from the exhaust, lack of pep on the level, loss of power on the hills, and excessive consumption of oil.

The cure is simple and positive. Install American Hammered Piston Rings. It's the one line with a set-up for each engine condition... the only line with a POWER ring for the second groove! Koppers Company, American Hammered Piston Ring Division, Baltimore, Md.

FOR IMPROVED GAS MILEAGE . . . DECREASED OIL CONSUMPTION . . . INCREASED POWER

American Hammered Piston Rings

POWER

a KOPPERS product

(CONTINUED FROM PAGE 118)

rated capacity of the tractors, and tractor-semitrailer combinations, the overcharge or undercharge from the rated capacity being a comparatively small percentage in most instances. The heavier I.C.C. vehicles were somewhat more overloaded than the lighter ones, in the cases of both trucks and tractor-semitrailer combinations. After the brake defects had been remedied or repaired there was no apparent correlation between braking performance and either the rated capacity or the g.v.w.

"5. The data indicate that the great majority of the brake faults found were of minor character well within the capabilities of the average mechanic to remedy. Such being the case, great improvement can be made in the brake performance in vehicles of fleets by the improvement of inspection methods and by the employment of competent personnel to effect their remedy or repair. The foregoing conclusion is not to be construed as meaning that brake experts or specialists are not desirable. In fact, the contrary is the case, as such specialists would doubtless be capable of more quickly detecting and analyzing brake faults or defects and effecting their remedy or repair. Further, one or several brake specialists would be indispensable members of a large maintenance organization.

"6. The majority of the brake defects noted existed because of insufficiency or utter neglect of inspection methods or lack of the same; or because of neglect or indifference of carriers in correcting brake faults or deficiencies known to exist. In this connection, it might pertinently be pointed out that a well-thought-out plan on paper is of little consequence unless it is translated into effect in the shops. Too frequently carriers had excellent programs as well as equipment for putting them into effect where the brake performance of the vehicles of their fleets was bad, indicating that the programs were "show pieces" rather than effective working plans.

"7. (a) It is entirely feasible for motor carriers to cause to comply and to maintain in compliance with the braking requirements of the Motor Carrier Safety Regulations, Revised of the Interstate Commerce Commission all vehicles except those which should either have radical repairs or be junked; (b) it is entirely practicable and a money-saving measure to do so; and (c) once the fundamental repairs necessary to get a given fleet into sound mechanical condition have been made, maintenance operations necessary to continue the fleet in sound mechanical condition, so far as brakes are concerned, are inexpensive because of the minor and comparatively routine nature of such maintenance. Recommendations:

"8. For the small operator who cannot afford his own service personnel and equipment because of the small number of vehicles owned, it is suggested that he consider, and discuss with some reputable brake service station specializing in truck service, the possibility of purchasing regular brake maintenance on a mileage or periodic basis, whichever suits his operation better.

"9. For the larger operators who maintain their own fleets, it is recommended that drivers' reports and mechanical inspection reports be fol-

(TURN TO PAGE 122, PLEASE)

There's NO SECRET ABOUT THIS WEAPON

FOR WAR-TIME TRUCK CONSERVATION

MARQUETTE GIVES YOU:

LOW INITIAL COST, negligible maintenance cost.

LOW OPERATING COST, high power factor, low idling cost.

SIMPLE OPERATION, just plug in and weld.

AUTOMATIC VOLTAGE CONTROL for superb arc performance and high quality welds.

NO "MAGNETIC BLOW" or "SNUFF-OUTS."

ALL-ASBESTOS INSULATION for hard 'round the clock usage.

COMPLETE EQUIPMENT. Nothing more to buy.

FIVE SUPERB MODELS. 150 to 400 amperes. Listed and approved by Underwriter's Laboratories, Inc.

Fleet operators the country over acclaim the speed and economy of electric welding as a lifesaver for making quick, strong repairs on their hard pressed fleet units. There's no expense or waiting for "hard-to-get" replacement parts. Often the damaged part can be fixed without even removing it from the machine. THAT'S GETTING 'EM ROLLING AGAIN "AHEAD-OF-TIME."

Send for free, 24 page, illustrated booklet.

VISIT BOOTH A-315 NAT'L METAL SHOW

MARQUETTE MFG. CO., INC., MINNEAPOLIS, MINN.

MARQUETTE

REG. U. S. PAT. OFF.

A.C. ARC WELDERS

Here's How to Lick Replacement Problems!

Maintenance Shop Records Prove FRAMS Keep 'em Rolling LONGER

"200,000 miles and more with Frams before reboring," reports a Watertown, S. D., Fleet Operator. "Cuts engine wear in half," a Kansas City operator states. "Wear found to be 3 to 4 times more on engines not equipped with Frams," writes an operator in Los Angeles.

These letters, based on maintenance shop records, show how Fram solves the wartime problems of keeping 'em rolling—keeping equipment on the road longer, increasing life of motor parts, cutting overhaul time and costs, saving oil and motors. Fram Oil & Motor Cleaners are *chemically-treated.* They do what no non-chemical filter can do: not only filter out dust, grit, carbon and sludge, but also impede formation of acids and other harmful corrosives.

So install Frams now. You take no risk. Here's Fram's Guarantee: Operate your fleet for 90 days with Frams. Then, if you are not convinced that Frams save their cost many times over, we'll gladly refund your money. Get the complete story—write to: Fram Corporation, Providence, R. I. Canadian Distributor: J. C. Adams Co., Ltd., Toronto, Ont.

IF YOUR FLEET HAS NO FILTERS

Install Frams. Fram Oil & Motor Cleaners have a *patented,* chemically-treated "filtermasse" which filters out dust and abrasives and also impedes formation of acids, other harmful corrosives that eat away motor parts.

IF YOUR FLEET HAS FILTERS

Get *genuine* Fram Replacement Cartridges to step-up performance. Chemically-treated Fram Cartridges are now made for most makes and types of filters. The extra, *chemical* protection means extra savings on motors and parts.

HOW'S YOUR OIL FILTER?

THE DIP-STICK TELLS THE STORY

(CONTINUED FROM PAGE 120)

lowed up with actual mechanical correction of the defective parts.

"10. To all types of carriers it is suggested that more attention be paid to minor adjustments and lubrication of the braking system, and a periodic or mileage basis be established for inspection of the brake lining. The proper care of these three items alone should materially improve the average brake performance on the average commercial vehicle or combinations."

WAR EMERGENCY PARTS PROCUREMENT SERVICE

The Diamond T Motor Car Co. has announced a "shopping service" to locate and buy "hard-to-get" truck parts for Diamond T owners. This is not a substitute for regular parts service, but a wartime supplement to it. It is known as the War Emergency Parts Procurement Service.

Here's how this service works:

"The Diamond T factory recommends the following procedure when ordering parts: First: See your Diamond T dealer. Let him supply the new part or have the old one repaired for you if it is possible.

"If that doesn't work—Second: Have him check our regular factory parts service department.

"If that doesn't work—Third: Make sure that your dealer hasn't a good used part in his stock, or one that can be adapted slightly and fill the bill.

"If that doesn't work—Fourth: Carefully write out a full description of the part. Give the truck serial number and the engine number. Describe the needed part by name if possible, and tell us what it does, where it goes, what it's made of, what it looks like. Draw a picture of it as best you can, giving the important dimensions. If the old part bears a symbol, a number, or other mark of identification, copy it down carefully. Give all the details that you can. If it's a part like a gear, count the number of teeth; count the number of plines; don't consider any identifying characteristic too trivial to mention. Tell where you have searched for the part, where you have placed an order, name the Diamond T dealers you have tried, so the factory won't have to cover the same ground needlessly in their search.

"Fifth: Write to War Emergency Parts, Diamond T Motor Car Co., 4501 W. 26th St., Chicago, Ill., enclosing careful description of the part you need. Sixth: The factory will get busy and you'll get action."

The factory further states that this is a non-profit activity and involves no increase in price or extra charge, regardless of the time and effort involved. Used parts bought will be supplied at cost, plus shipping expense and a nominal handling charge. If requested the factory will quote price and get confirmation of order before buying when any substitute or used part is located.

can't get NEEDED TRUCKS

WHY NOT ORDER

a TRUCKSTELL CONVERSION?

WITH the pool of new heavy duty trucks facing depletion, the W. P. B. is encouraging operators in need of large gross weight vehicles to investigate the plan of converting medium trucks for such heavy service.

Truckstell pioneered the idea of expanding "little ones into big ones" and proved its feasibility in thousands of instances. This widely accepted plan is now aiding effectively in meeting the present truck shortage.

New or used medium (1½ ton) trucks can be expanded in size, capacity, power and usefulness through rebuilding and the installation of various co-ordinated units, some of which are mentioned at the left.

Various possible conversions include the following:

CLARK Automatic Booster CONVERSIONS

THORNTON Four Rear Wheel-Drive CONVERSION

TRUXMORE Trailing 3rd Axle CONVERSION

HEAVY DUTY Clark Axle CONVERSIONS

EATON 2-Speed AXLE

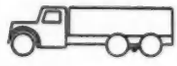
CLARK SPOKE WHEELS

DIAMOND Safety Gas TANKS

WATSON-BROWN-LIPE TRANSMISSIONS

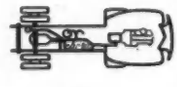
FOUR WHEEL TRUCKS can be assembled equipped with an extra rugged rear axle, special transmission, heavy drive line and other related units—with *ratings up to 3½ to 6 tons as a truck and 40,000 pounds capacity as a tractor.*

SIX WHEEL TRUCKS, with Truxmore Trailing Third Axle and all required co-ordinated units can be assembled, having *gross rating of 11 to 16 tons as a truck and 40,000 to 50,000 pounds capacity as a tractor.*



SIX WHEEL TRUCKS, with Thornton Tandem Drive and sufficient tractive power for very difficult hauling, are available—with *gross rating of 13 to 16 tons as a truck and 40,000 to 50,000 pounds capacity as a tractor.*

BOOSTER ENGINE TRUCKS are also a possible conversion. These trucks have a second or "booster" engine which "cuts-in" when hard going conditions require extra power—"cuts out" when the need has passed—and stands by for instant automatic service when again needed. Boosters are also applicable to the above trucks.



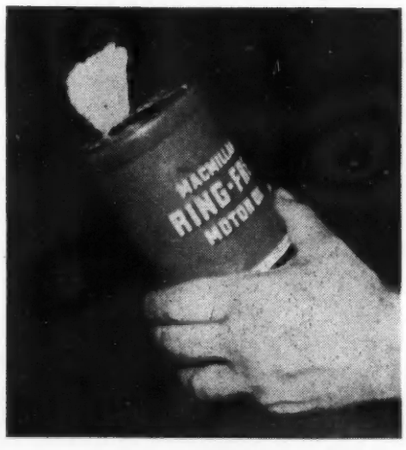
WRITE IMMEDIATELY FOR COMPLETE INFORMATION

TRUCKSTELL CLEVELAND

UNION COMMERCE BUILDING

CONVERTERS of TRUCKS for EXPANDED USEFULNESS

DISTRIBUTORS of Tested and Approved TRUCK EQUIPMENT



A quart "can" without metal has been developed to package Macmillian "Ring Free" motor oil. The new container is of all-fiber construction with a plastic lining. It is extremely tough and durable, and is non-refillable

METROPOLITAN NEWS RELIES ON THERMOID

Thermoid Brake Linings used on all 84 of company's delivery trucks

NEW YORK.—When interviewed today, Mr. Harry Swenken, Fleet Superintendent for Metropolitan News Company, said truck conservation is particularly importa... why his company is pa... condition of its deliv...

METROPOLITAN NEWS COMPANY
47-53 CHRYSTIE STREET
NEW YORK

Telephone: CAnal 6-4200

Thermoid Company,
Trenton,
New Jersey

May 11, 1942

Gentlemen:

In our business - delivering millions of copies of daily newspapers to thousands of newsstands on a split-second schedule - you can't guess about things, you have to know!

We know - from our experience - that Thermoid Brake Linings stop our units smoothly and dependably - every time. We know, too, that Thermoid Linings give us remarkably long mileage ... help upkeep our 80 odd units on the line in uninterrupted service.

Ours is a stop and start service. During the last ten years of operation, we have never had to buy any brake drums. We attribute this to the even wearing qualities of Thermoid sets.

To any fleet owner, anywhere, we'd say, "Try a set of Thermoid Linings - you'll be back for more".

Sincerely yours,

METROPOLITAN NEWS

Harry Swenken

Fleet Supt.

● Try Thermoid Brake Linings on one of your most troublesome units, under your toughest conditions. As a result of the test, according to Mr. Harry Swenken, Fleet Supt. for Metropolitan News Co., "You'll be back for more".

Thermoid

Custom-Built Brake Lining Sets • CBB Sets • Thermo-blocks for heaviest duty

★ THERMOID COMPANY ★ *Trenton, New Jersey* ★

NEW PRODUCTS

(CONTINUED FROM PAGE 41)

jurious and to last indefinitely. It is packaged in 1 and 3 lb. tubes.

Use free postcard for more details

P53. Invisible Gloves

A new protective skin cream known as "Mitts" is announced by Mitts Manufacturing Co., Brooklyn, N. Y.

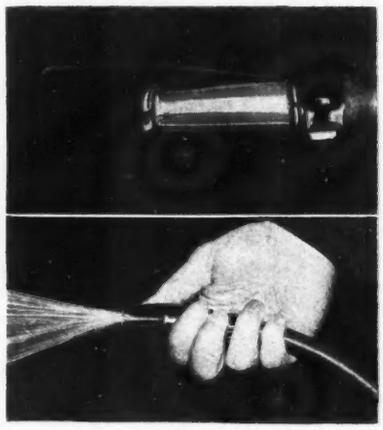
It is a water soluble cream that is applied to the hands before starting work. The manufacturer claims that it vanishes as soon as it is put on, and leaves an invisible glove that protects the hands from grease, paint, ink, etc. It spreads a non-sticky, non-staining invisible coating over the hands that washes off in soap and water and with it all the dirt and grime.

Use free postcard for more details

P54. Extinguisher Attachment

The "Thumb-Spray" is a new attachment to convert present fire extinguisher equipment to wartime needs. Just announced by the Pyrene Manufacturing Co., Newark, N. J., it is made of spring steel and designed to clamp over the hose and nozzle of any standard extinguisher.

Most standard extinguishers discharge only a solid stream. The "Thumb-Spray"



attachment converts the solid stream into a spray by merely applying pressure with the thumb at the end of the attachment. The use of the attachment will make present extinguisher equipment more effective on certain industrial fires and magnesium incendiary bombs where a spray is called for.

Use free postcard for more details

WESCO
TIRE CHAINS
ONE SNOW STALLED TRUCK
CAN HOLD UP
MILES OF VITAL TRAFFIC
Winter conditioning is not just a matter of "business as usual" this year—it is a vital war measure aimed at keeping the traffic rolling "on time."
1. Repair and recondition all the tire chains you have. Do it now!
2. Take good care of your tire chains and make them last—see that they are applied properly, driven slowly and used only when necessary.
Remember: Every snow stalled truck holding up traffic is a gift of time to the Axis. "Stalled" excuses don't deliver vital war goods.
WESTERN CHAIN PRODUCTS CO.
1801 W. Belmont Ave.
Chicago, U.S.A.
U.S.A.
U.S.A.

P55. Rubber Preservative

A new process of preserving rubber has been announced by Transmotive Laboratories, Chicago, Ill. Known as the "Prolatex Rubber Saving System," it consists of a vegetable base preservative and a specially constructed dipping tank for application. The system is claimed to preserve the elasticity and resilience of rubber, to fill the pores, cracks, minor cuts and abrasions; to seal the entire outside surface of the rubber against oil, grease,

gas and air as well as rubber-destroying rays of the sun; and to restore "new-rubber" appearance. It is a penetrant of extremely low viscosity which permits speedy absorption by the rubber. It is not a paint and is not applied by brushing. The specially designed dipping tank permits the application to tires while on the car, and results in a more adequate and uniform application than by brushing.

Use free postcard for more details

(TURN TO PAGE 126, PLEASE)

PROTECT AMERICA'S "VITAL TRANSPORTATION"

CASITE MAKES GASOLINE OR DIESEL ENGINES RUN BETTER

● With every fleet pledged to the U. S. Truck Conservation Corps, longer engine life and added power and performance mean more than ever.

The use of Casite is an important step in conserving motors. It cleans out sludge and gum from vital areas, keeps valves and rings free, speeds lubrication to close tolerance parts. And remember, a clean, well-lubricated engine lasts longer and goes farther on a gallon of gas.

Include Casite in your fleet conservation program. Your maintenance records will prove its value.

THE CASITE CORPORATION • HASTINGS, MICHIGAN

★ CĀSITE ★ ★ ★

CLEANS OUT MOTORS • KEEPS MOTORS CLEAN

NEW PRODUCTS

(CONTINUED FROM PAGE 124)

P56. Paint Distribution

A plan for the distribution of a complete line of paints, enamels and varnishes to the automotive trade has been announced by the Kathanode Corp., an affiliate of the National Battery Co., Saint Paul, Minn. The line of paints will be distributed through service stations and other retail automotive outlets. Kathanode paints are available in all grades and colors, and will be attractively priced to the trade and consumer. All sales are to be made to the consumer on a "money-back guarantee," backed by the Kathanode Corp.

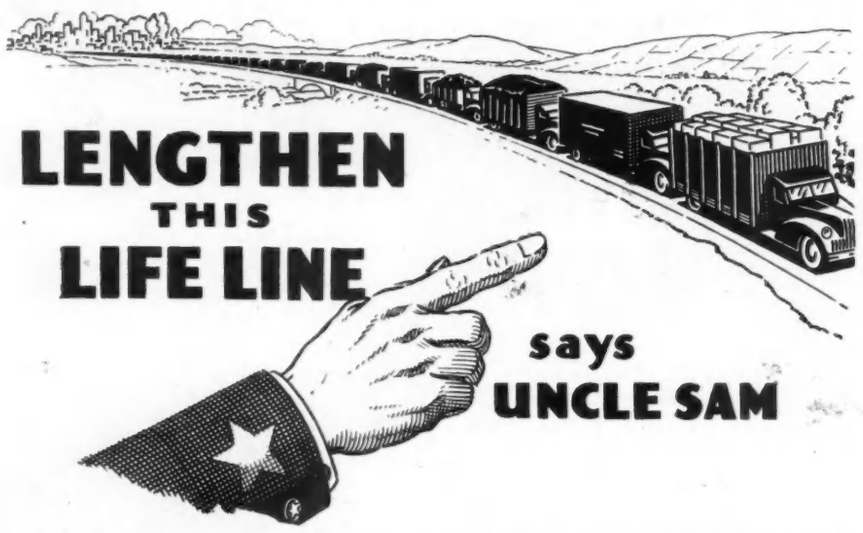
Use free postcard for more details

P.57. Prefinished Wall Panels

A new low-cost plastic coated wall board, known as "Chevron Board," has been introduced by Barclay Manfacturing Co., Inc., N. Y. The panels, available in sizes up to 4 x 8 ft., come in three designs: tile board, unscored sheets and streamlined, and in a wide range of pastel tones. A plastic finish is permanently

bonded to the compressed wood fibre base, and it is claimed that it will not warp, chip, craze, crack or peel. It is claimed also that the panels are quickly and easily installed by nailing, screwing or cementing to the old walls or new framing.

Use free postcard for more details



AMERICA'S five million trucks must be kept on the road if we are to win the War. So says Uncle Sam. To "lengthen the life line" of this vast fleet it is vitally important to use replacement parts that can be depended on to give *long service.*

This is particularly true of Ignition parts, virtually all of which are made of "critical" materials. In the event of a breakdown, duplication of a part might be difficult.

Fleet operators and individual truck owners have the assurance of uninterrupted ignition service over maximum periods when they replace with Blue Streak, the accepted "Quality" Line made famous by the slogan—"Long-life Peak Performance."

STANDARD MOTOR PRODUCTS, INC.
37-46 Northern Blvd., Long Island City, N. Y.

"The ABILITY to serve well is as important as the WILL to do so."

NEWSCAST

(CONTINUED FROM PAGE 54)

Inc., Charlotte, N. C., on Oct. 28 at 2:30 p. m.; "Labor Problems in War Transportation," by W. R. Smith, Manager, Personnel and Insurance, Scott Bros., Inc., Philadelphia, at 3:30 p. m.; "Preventive Maintenance Program Keyed to War Conditions" will be the opening paper on Oct. 29.

ICC Warns Carriers of Explosives

The Interstate Commerce Commission has issued a warning to all carriers engaged in handling explosives to impress upon the drivers the importance of observing the ICC regulations dealing with Explosive Ladings. This warning followed an accident in which a tractor-semitrailer hauling explosives was set on fire after a collision. Six persons were killed, 40 injured and all buildings within a 600-ft. radius were razed, burned or heavily damaged.

Gasoline Tax Collections Drop

Gasoline tax collections for July, 1942, in 27 States were 18½ per cent less than in July, 1941, according to figures collected by the Public Roads Administration of the Federal Works Agency. In the rationed States, reductions ranged from 24 per cent in New Jersey to 35½ per cent in Vermont. In most States, taxes on June gasoline sales are paid to the State in July. Hence the figures largely reflect June consumption.

The decline in July traffic averaged 40.7 per cent in the rationed area and 28.3 per cent elsewhere.

Manufacturers' Parts Sales Amended

Manufacturers' sales of automotive replacement parts, subassemblies and accessories designed for civilian use were removed by the Office of Price Administration from the General Maximum Price Regulation and placed under the Machines and Parts Regulation.

Sales at retail and wholesale remain under the General Maximum Price Regulation.

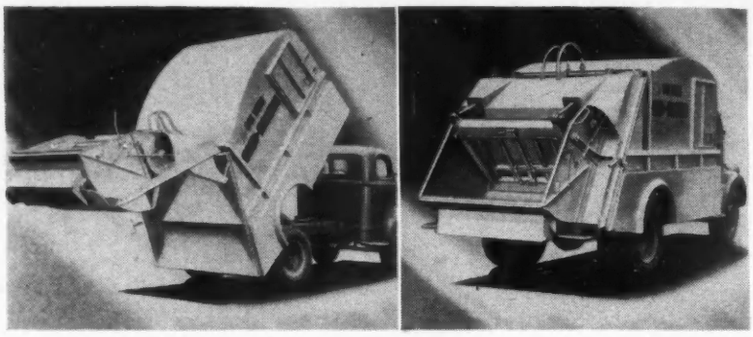
(TURN TO PAGE 128, PLEASE)

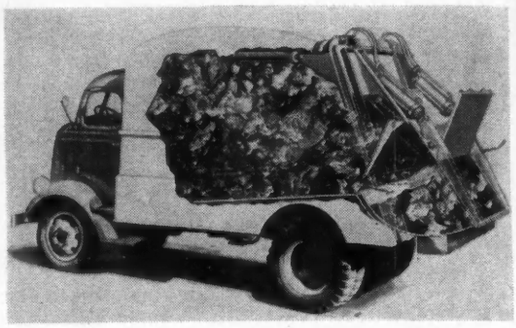
WHO IS A ROBOT

Webster is wrong, as any one of thousands upon thousands of Motor Transport Operators who know genuine Bendix-Westinghouse Air Brakes will attest ✱ They have come to know this genial gentleman in Bendix-Westinghouse armor as the "Extra Man in the Cab" who performs hundreds of everyday miracles to lighten countless control burdens . . . the individual who dependably dwarfs many emergencies, a real Patron Saint ✱ To us, who have known him intimately during more than ten years of his existence, he is all of this plus the personification of every skill and artistry which goes to make up genuine Bendix-Westinghouse Air Brakes and Air Control Devices ✱ With an integrity, matching that of the company he symbolizes, he's a two-fisted slugger who likes it best when the going's toughest . . . no job is too big for him . . . yet, your accounting department will know him for his gentle tread and a strict affinity for "blue ink" ✱ It will be well worth the effort to become acquainted with this Silent Partner of the Motor Transport Industry which offers such exclusive control advantages . . . Consult your local telephone directory for the Authorized Bendix-Westinghouse Distributor nearest you, today.

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE CO.
ELYRIA, OHIO

AN ORGANIZATION WHOSE UNDIVIDED EFFORT AND UNLIMITED RESOURCES
ARE DEVOTED TO YOUR CONVENIENCE AND SAFETY





Three views showing the Gar Wood Load Packer for the collection of ga·bage and rubbish. At le't is shown Load-Packer with tail-gate raised and body lifted to dumping position. Center shows tail-gate ram packing load into body. At right is shown Load-Packer with full inside load. The Load-Packer features: low loading position; hydraulic action for load ng, dumping and compressing of all types of garbage, refuse and rubbish into a compact, full capacity load that is many times greater by weight than the usual loose load. A hinged door is provided on the curb side of the Load-Packer body which permits the loading of bulkier materials. The Load-Packer is furnished in 9 and 12 cu. yds. capacities.

"I have been reading and using COMMERCIAL CAR JOURNAL for the past 8 years.

"The information contained in it each month is so valuable that I file the copies and frequently refer to copies several months old, in order to brush-up on some topic or find the address of one of the advertisers, whose product I need and cannot purchase locally."

—The reader who wrote that to us operates a truck line in Indiana. He has 50 trucks and tractors.

This gentleman is a good customer for COMMERCIAL CAR JOURNAL advertisers.

NEWSCAST

(CONTINUED FROM PAGE 126)

The amendment does not affect parts and subassemblies designed for use expressly for military vehicles such as tanks and jeeps. However, manufacturers' sales of parts and subassemblies originally designed for use in private cars and trucks, whether or not they are destined for ultimate use by the armed forces, do come under the new provision.

The amendment, effective Sept. 29, simplifies the pricing of new-type items and items made from substitute materials.

Common Services Must Post Prices

A statement of ceiling prices for all common services, such as auto repairing, etc., must be available for public inspection in every establishment subject to the Services Regulation of the Office of Price Administration.

The statement, which each affected service is required to maintain for public inspection, must include these four main points:

1. A list of all services subject to the regulation which were supplied during March, 1942, and an identifying description of each;
2. The highest price charged during March for each service; or, if no fixed or flat price was charged, then
3. The rate or pricing method and charges regularly applied to the service during March; and
4. Customary allowances, discounts, and other price differentials that were in effect in March.

This list must be kept up-to-date by adding similar information with respect to any services offered for the first time after March, 1942.

A copy of the statement must be filed with the local War Price and Rationing Board.

Tank Truck Tariffs Adjusted

Recognizing the shifting of tank trucks to new routes and territories to meet emergency transportation needs, the Office of Price Administration authorized tank truck operators to charge rates above levels of

(TURN TO PAGE 130, PLEASE)

For going "OVER THE TOP" IN PRODUCTION

Over the three great plants of The Timken-Detroit Axle Company fly Army-Navy "E" Burgees—symbol of work well done for the U. S. Armed Forces.

That work began over 20 years ago, when the problems of motorizing and mechanizing the U. S. Army were yet to be solved. Constantly, earnestly, throughout the years when the necessity for "preparedness" was all but forgotten, Timken co-operated with the U. S. Army Ordnance Department and Quartermaster Corps to improve and to develop new equipment that would make the job of our fighting forces more effective if—or when—the occasion should arise.

On December 7, 1941, that occasion *did* arise—and today's swift flow of axles and other essential material from Timken plants to the far-flung battle lines is evidence that this co-operation was well directed.

The privilege of flying the coveted Army-Navy "E" above our plants—at Detroit, Michigan, at Waukegan, Illinois, and at Oshkosh, Wisconsin—rewards the past efforts of Timken men and women to "Keep 'Em Rolling." It inspires every one of us *now* to work for greater and yet greater production. It sends us to our individual jobs with new determination to outwork and out-produce the robots of Europe and Asia, until our Fighting Forces have all the fighting weapons needed to crush the foes of Freedom!

TIMKEN AXLES

THE TIMKEN-DETROIT AXLE CO., DETROIT, MICHIGAN
WISCONSIN AXLE DIVISION, OSHKOSH, WISCONSIN

Timken: Builder of Battle Axles!

Proof of
GREATER OILINESS
reveals the secret of effective lubrication

The dramatic verdict of the Sperry-Cammen Adheroscope* is simply this. That Amalie oils have far greater oiliness than those refined by less painstaking methods. And oiliness is the basic essential of really effective lubrication!

Amalie oils are refined by the exclusive Amalie straight-run refining process—which gives you full benefit from the natural, *extra oiliness* in the fine Pennsylvania crudes from which they are produced. No wonder their performance record over millions of miles of heavy-duty service is so outstanding!

Today, you need the benefits of these superb oils and lubes more than ever. To safeguard the precious bearing surfaces of your equipment. To cut your operating and maintenance costs. Write today for full details on the advantages of Amalie oils and lubes for heavy-duty Diesel and gasoline equipment.

★ LESS SLUDGE
★ LESS CARBON
★ WILL NOT CORRODE COPPER—LEAD OR SIMILAR MODERN BEARING ALLOYS.

*The impartial Sperry-Cammen Adheroscope rates straight-run Pennsylvania oils highest in the field for oiliness.

AMALIE
PENNSYLVANIA
MOTOR OIL

PRODUCT OF DAUGHERTY REFINERY
Division of
L. Sonneborn Sons, Inc., New York, N. Y.
Refineries: Petrolia, Pa. Franklin, Pa. Plant: Nutley, N. J.

NEWSCAST

(CONTINUED FROM PAGE 128)

last March—subject, however, to OPA adjustment.

At the same time, as a protection to the general price level, OPA requires operators, in reporting the new rates, to include a statement from the person paying the transportation charge that the increase would not be made the basis of a commodity price increase or petition to OPA to raise the ceiling of any commodity under price control.

Traffic and Transport Men Join OCD

Appointment of a traffic engineer and a motor transport specialist to help plan for orderly and efficient operation of highway transportation under emergency war conditions was announced by the Office of Civilian Defense.

The new appointees are Dr. Donald S. Berry, Chicago, traffic engineer, on loan to OCD from the National Safety Council, and Patrick F. Payne, Omaha, Nebraska, bus line executive and motor transport specialist.

Dr. Berry will work with state and local highway authorities and their traffic and police advisers, and will have the cooperation of the Highway Traffic Advisory Committee to the War Department and the Public Roads Administration in developing plans for the most effective use of highways, terminals, warehouses, and other transportation facilities in metropolitan areas in case of enemy attack.

Mr. Payne will organize fleets of trucks and buses of the larger carriers throughout the country into motor transport units which can be ordered into operation as convoy units for swift and orderly transportation of military or civilian personnel and supplies.

New Britain Wins Army-Navy "E"

The U. S. War Department conferred upon the employees and management of the New Britain Machine Co., New Britain, Conn., the Army-Navy Production Award for "high achievement in the production of war equipment."

A standard Chevrolet truck rebuilt to do heavy-duty hauling, by the installation of a Thornton four-rear-wheel drive unit. With the installation of this unit and reinforcements, the G.V.W. of the truck was raised to a capacity of from 26,000 to 30,000 lbs.

One Virtue IN COMMON

Whether your choice be Bulldog, Setter, Spaniel, Airedale, Dane, Terrier or St. Bernard, yours shares one of his best qualities with the rest. You can depend on him to do at your bidding that for which he was bred and trained.

Remember that, also, as characteristic of **PUSH-PULL CONTROLS**. They may be designed of different dimensions and for different purposes—for the remote control mechanisms such as brakes, gear shifts and blades of tractor-operated scrapers, shovels and cranes. They provide vital, remote control for much American fighting equipment.

All of these **PUSH-PULL CONTROLS** provide positive control. Operation is easy because the moving part operates in an hermetically sealed bath of lubricant. They are all rattle-free. But, above all, each can be depended upon to do the job for which it was designed and built.

Remember that. Glad to work with you to develop **PUSH-PULL CONTROLS** to fit your planned peace-time production.

PUSH-PULL AUTOMOTIVE CONTROLS

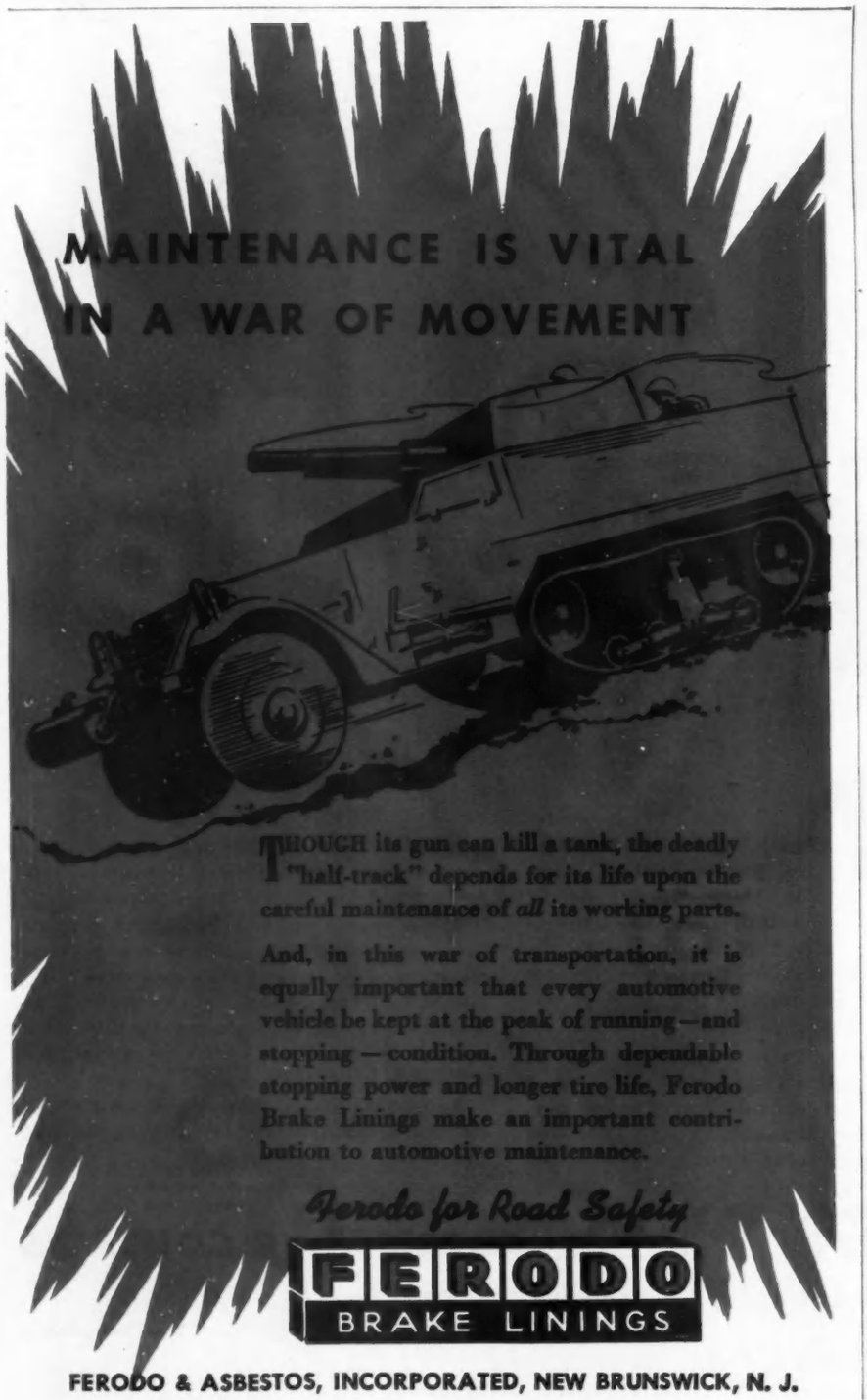
AUTOMOTIVE AND AIRCRAFT DIVISION

6-235 General Motors Building, Detroit • 695 Bryant Street, San Francisco

AMERICAN CHAIN & CABLE COMPANY, Inc.

BRIDGEPORT • CONNECTICUT

Robert P. Page, Jr., president of the Autocar Company, Ardmore, Pa., and Major General Charles T. Harris, Jr., Commanding General of Aberdeen Proving Ground, hold aloft the Army-Navy "E" burgee, presented to the Autocar company for outstanding achievement in war production. Each of Autocar's 2500 employees received a silver "E" lapel pin in recognition of his part in Autocar's great production record of military vehicles


MAINTENANCE IS VITAL
IN A WAR OF MOVEMENT
THOUGH its gun can kill a tank, the deadly "half-track" depends for its life upon the careful maintenance of all its working parts.
And, in this war of transportation, it is equally important that every automotive vehicle be kept at the peak of running—and stopping—condition. Through dependable stopping power and longer tire life, Ferodo Brake Linings make an important contribution to automotive maintenance.
Ferodo for Road Safety
FERODO
BRAKE LININGS
FERODO & ASBESTOS, INCORPORATED, NEW BRUNSWICK, N. J.

ODT NEWS

(CONTINUED FROM PAGE 33)

More ODT Interpretations

Three other interpretations of ODT orders were issued by Mr. Scott.

In an interpretation of General Order ODT No. 3, Revised, the ODT ruled that trucks operated in the United States or any of its possessions by a common carrier domiciled in a foreign country are subject to provisions of the order. The order also applies, the ODT ruled, to trucks registered in a foreign country or operated from a terminal in a foreign country.

In another interpretation, it was ruled that a person owning and operating more than one business establishment may make one delivery a day to the same point of destination from each such establishment without violating the provisions of General Order ODT No. 17.

The third interpretation held that oysters are not farm products within the definition of such commodities as contained in General Orders Nos. 3, 6, and 17 and General Permits Nos. 3-4 and 17-1.

First Joint Action Plan for Over-the-Road Carriers Approved

The first order approving a joint-action plan submitted by common motor carriers engaged in over-the-road operations was issued Sept. 11 by the Office of Defense Transportation in its program of coordinating motor vehicle service.

Involving four Midwestern carriers of household goods—the Aero Mayflower Transit Company of Indianapolis, Ind.; the Greyvan Lines, Inc., Chicago, Ill.; the United Van Lines, Inc., St. Louis, Mo., and the North American Van Lines, Cleveland, Ohio—the order authorized the companies to establish in Chicago an office which will clear information enabling the carriers to exchange shipments and otherwise "facilitate the movement of household goods." The order does not relieve the carriers of the responsibility of registering with the ODT Joint Information Office.

The order left the way open for participation in the joint-action plan by other common carriers transporting household goods by motor truck.

ODT To Make First-Hand Study of British Women in Transportation

A first-hand study of ways in which women are helping to meet personnel shortages in the transportation industry in England will be undertaken by the Office of Defense Transportation.

The survey, expected to take two months, will be made by Miss Dorothy M. Sells, Chief of the Personnel Supply Section of ODT's Division of Transport Personnel, who will go to England for the study.

In explaining her mission, Miss Sells pointed out that while much is known in this country about what work women are doing in the transportation field in England there are many factors involved which make a first-hand study necessary.

(TURN TO PAGE 134, PLEASE)

Keep Your Trucks READY TO GO with a TUNGAR *Two Rate* CHARGER

For 40-amp. Charging of 6-volt or 12-volt Batteries

Avoid delays. Prevent tie-ups. Keep your electric trucks ready to go!

The Tungar Two-Rate Charger will completely recharge a run-down battery quickly and safely. Sizes are available for 6- and 12-volt batteries. The initial high-rate charge of 40 amperes, adjustable from 1 to 6 hours, automatically drops to a low finishing rate of 16 amperes for the last 20 per cent of the charge, then automatically cuts off.

Portable—can be easily moved to any desired location. Complete—furnished with long d-c leads and clips, a long a-c lead which plugs into any convenience outlet of the proper rating, and two 99X45 Tungar Bulbs. Compact—requires less than one square foot of floor space.

It Can Do a Real Job for You

FOR MORE INFORMATION, WRITE US OR SEND THIS COUPON TODAY

Section A10211-74, Appliance and Merchandise Department, General Electric Company, Bridgeport, Connecticut.

Sirs: Please send more information on Tungar Two-Rate Chargers.

Name.....

Street.....

City..... State.....

GENERAL ELECTRIC

New "Victory" Tractor-Trailer to Haul War Workers

The Victory trailer bus, designed and produced by The Trailer Co. of America of Berkeley, Cal., and Gillig Bros., of Hayward, Cal., will accommodate 79 passengers, and with "standees" will haul 100 workers. It utilizes the Trailmobile semi-trailer, and the motive power is a standard Chevrolet truck. The body, 35 feet in length, is constructed by Gillig Bros. Four different seating plans are available to meet varying transportation needs

"The Brake People"

MILEY

BRAKE LINING · BRAKE SHOES · BRAKE PARTS

MILEY BLACK GOLD SETS

Balanced for Modern Traffic

"SOFT STOPS"

Emergency Stops!

Experienced operators ask for MILEY BLACK GOLD and EBONITE linings. They know from actual road experience the soft, smooth pedal action—the tire-saving smooth stops provided by BLACK GOLD, the densest lining manufactured. They know, too, that when a sudden traffic emergency demands a quick stop—BLACK GOLD balanced with EBONITE, the heavy duty, high friction, metal wire base resin impregnated brake lining, provides stepped-up stopping power to match today's overloading.

Save irreplaceable tire-miles with BLACK GOLD "soft" stops: avoid costly accidents with EBONITE stepped-up stopping power. Keep those all-important trucks and cars rolling mile after mile with brake linings balanced for modern traffic with MILEY BLACK GOLD and EBONITE linings.

Write for information on all MILEY products—Ready Lined Brake Shoes, Rebuilt Hydraulic Brake Cylinder Assemblies, Clutch Facings, Fan Belts and Rivets.

SAFETY FIRST
BRAKE SERVICE
WITH
MILEY BRAKE PRODUCTS

L. J. MILEY CO.

1062 W. Adams St.
Chicago, Illinois

ODT NEWS

(CONTINUED FROM PAGE 132)

Five JIOs Approved

As of Sept. 18 the ODT had approved five Joint Information Offices, as follows:

Chicago, Ill.—10 N. Clark St.; manager, James J. Turek.

Des Moines, Iowa—400 S. W. Ninth St.; manager, John I. Petty.

Washington, D. C.—1424 Sixteenth St., N. W.; manager, John R. Scott.

Louisville, Ky.—701 Republic Bldg.; manager, Lew Ullrich.

Cincinnati, O.—3129 Spring Grove Ave.; manager, Charles T. O'Donnell.

New York City Cab Service Cut

Taxicab service in New York City has been drastically curtailed in furtherance of the Office of Defense Transportation's program to save rubber, gasoline and equipment. The order was issued by Joseph B. Eastman, ODT director.

Fleet operators (those who operate three or more taxicabs) were ordered to discontinue operating by not less than a third the number of cabs for which they are entitled to city licenses.

Individual operators (those who operate less than three taxicabs) were ordered not to operate any taxicab more than six days a week. Furthermore, they were prohibited from increasing the number of shifts any cab has been operating.

Tank Trucks Get Exemption

A general permit exempting tank trucks from the provisions of General Order ODT No. 6, as amended, was issued by the ODT. The effective date of the order with respect to such vehicles previously had been postponed. Order 6, to which the permit applies, governs local delivery operations of common carriers.

New Certificate Needed for Tires

Between now and Nov. 15, when the ODT truck control order becomes effective, truck operators must present a Wartime Necessity Certificate, together with records showing compliance with ODT mileage limitations, in applying for tires, OPA announced. However, many of the vehicles that get Certificates of war necessity will not be able to qualify for tires, OPA emphasized.

ODT Studies Truck Aid for Railroads

The part the trucking industry can play in short-haul and intra-terminal freight service to relieve the pressure on railroad freight car equipment is being explored by the Office of Defense Transportation.

END

(Please resume your reading on P. 34)

... and a HALF DONE overhaul won't stop OIL PUMPING

REPLACE WORN ENGINE BEARINGS!

Motor-Fouling oil waste caused by worn bearings in the lower half of the engine can't be corrected by installing new rings in the upper half. That's only HALF the job.

If the worn bearings are not replaced, they continue to flood the cylinders and combustion chambers with excess oil, which burns to carbon, coating the best of new rings, pistons, valves and spark plugs—and the oil pumping continues.

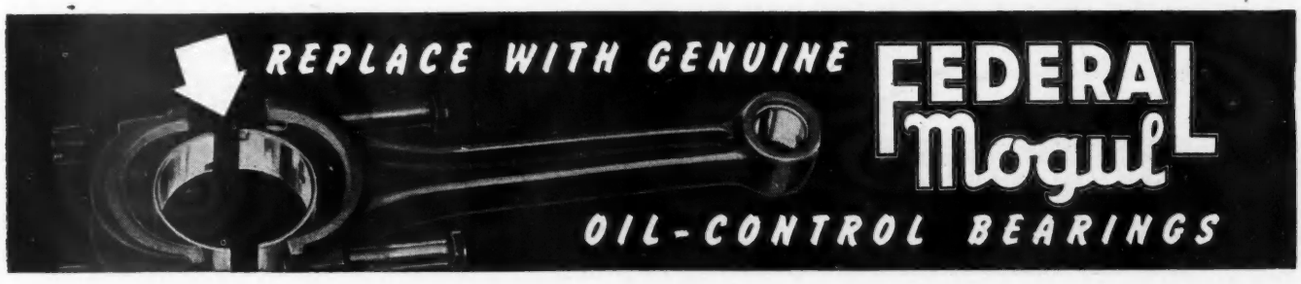
The only cure is to start correction where oil waste starts—by replacing worn bearings. Replace in sets with Federal-Mogul Oil-Control Bearings to restore power, pep and economy *for the long* run!

FEDERAL-MOGUL CORP., Detroit, Mich.

FOR VICTORY

Federal - Mogul manufactures 39 precision bronze parts for aircraft landing strut assemblies. Federal-Mogul's expanded factories are working "all-out" producing a multitude of bearings and precision parts for airplanes, tanks, boats, motorcycles, torpedoes, controls — and millions of bearings for servicing the millions of automobiles carrying war workers and materials to their jobs.

WORN BEARINGS CAUSE OIL PUMPING



TRANSPORTATION PLACEMENT PLAN SPONSORED BY STUDEBAKER

A plan designed to help give wartime America the full benefit of existing motor truck transportation has been announced by R. G. Hudson, manager of Studebaker's truck division.

Named the "Transportation Placement Plan," the purpose of this new activity is to assist in getting every idle or part-time truck in the country into full-time essential use.

By utilizing existing facilities, experience and personnel the plan will enable the Studebaker dealer organization to render substantial aid to the nation's truck conservation program, it is believed.

"The plan, which is designated as 'TPP,' was originated by Studebaker to help solve what probably is the most serious problem now facing our motor transportation system," Mr. Hudson said. "We all know that 5,000,000 existing trucks in this country constitute the transportation pool which must serve our trucking needs for the duration of the war. Of this total, an indeterminate number are not now contributing to the war effort.

"Studebaker's 'TPP' is designed to help meet this situation by putting back to work in an essential service every truck that becomes idle," Mr. Hudson continued, "to promote keeping these essential trucks in proper repair and maintenance, and to make readily available the facilities required for this job. It is a long-range program because as time goes on non-essential users will continue to withdraw vehicles from service and essential users will continue to require additional trucks.

"Under this plan Studebaker dealers make a community-wide truck census, which includes checking up the idle or part-time units or those units classified as being in non-essential use and available for full-time essential transportation use. This plan will thus serve to facilitate the flow of transportation to vital services where it will be needed," he said. "Data is being obtained on truck users that need or will need additional equipment, and on truck users that want or will want to dispose of some or all of their trucks.

"Through simple but effective records the Studebaker dealer will be enabled to serve as a commercial vehicle transportation clearing house in his community," he stated. "Duplicate records will be maintained in the Studebaker regional office serving the locality, so that trucks readily can be made available for sale or purchase between various communities.

"In addition to its primary purpose, 'TPP' will continue the promotion of active participation in the U. S. Truck Conservation Corps Service Campaign on the part of every truck user in the dealer's community," Mr. Hudson concluded. "It not only will enable the dealer to help in the national conservation program, but will bring additional volume to his used truck and service departments."

GET THE EXTRA SAFETY OF ARROW SEALED BEAM REPLACEMENT HEADLAMPS

All glass, Sealed Beam Head Lamps are an outstanding contribution to safer night driving. They relieve the strain on the driver and give much greater visibility. Because the reflection surface is sealed inside of the glass there is little or no light deterioration over a long time. Besides cutting down lamp maintenance costs you can release much needed old brass to Uncle Sam's scrap pile. ARROW Sealed Beam Replacement Head Lamps make this improved lighting available for all fleets at little cost.

Like all ARROW products these Replacement Lamps are especially designed and engineered to give long, dependable service. See your jobber or write direct to Dept. 145.

"MUST ITEMS" FOR BURDEN VEHICLES

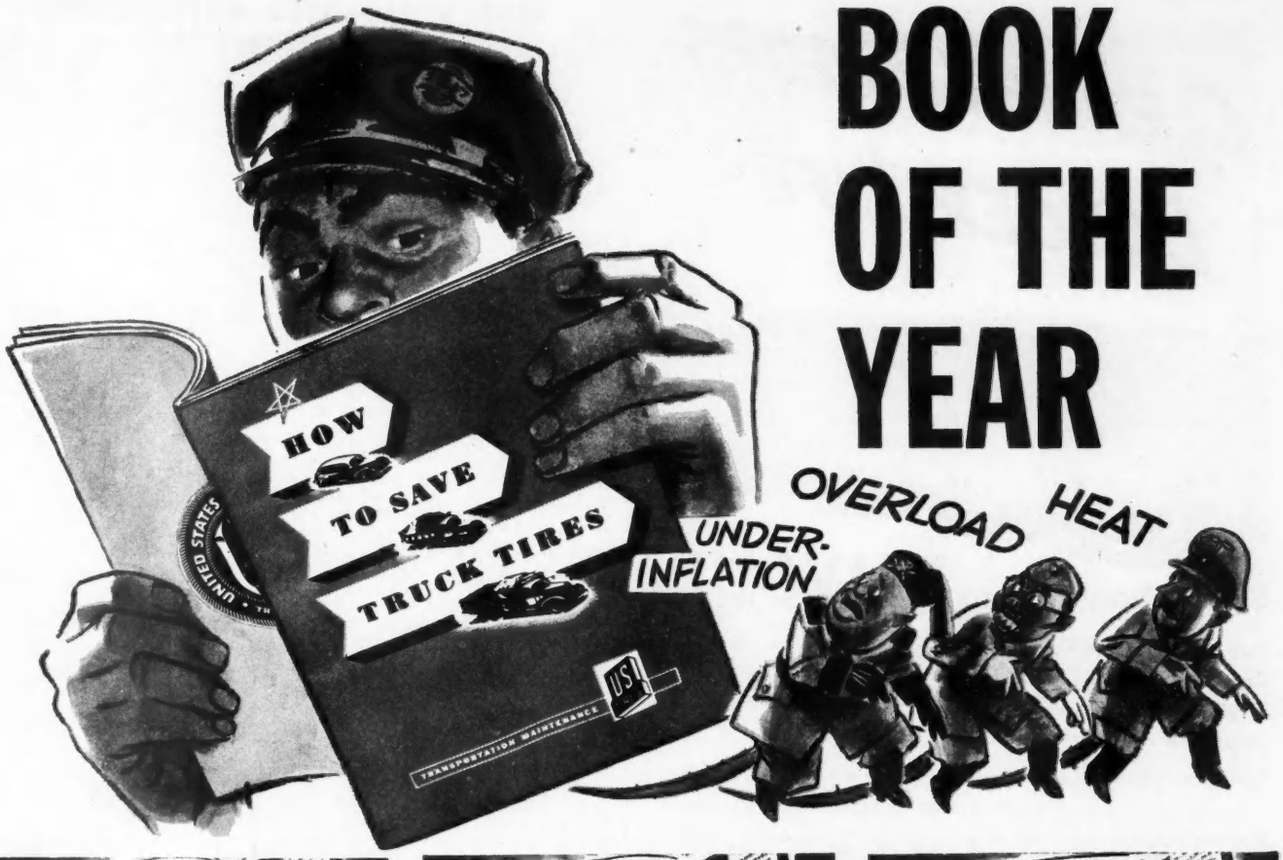
CLEARANCE LAMPS

Two outstandingly popular safety lamps in the ARROW line. The Stop Light is effective and powerful. Has 4" diameter lens with special fluting and large word "STOP" backed by fused blacking in glass. The streamlined Marker or Clearance Lamp is a deluxe unit built to fit either flat surfaces or modern body curvatures. Visible to front and sides it can be used to conform with I.C.C. and State requirements on corner installations in place of two lamps.

STOP LIGHTS

ARROW SAFETY DEVICE CO., Inc.
MEDFORD, NEW JERSEY

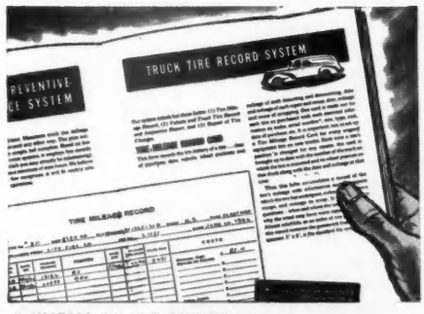
BOOK OF THE YEAR



1. GET THIS FREE BOOK from your "U. S." Truck Tire Distributor, Its 24 pages are packed full of vital facts about truck tires: how to detect *mechanical defects* that waste tire mileage — such as misalignment, brakes out-of-adjustment, bent axles, bent rims, wobbly wheels.

2. TELLS HOW TO SAVE the precious tires entrusted to your care by your government; shows the *truck operating conditions* that affect tire mileage — such as overloads, improper loading, speed, roads, fast starts and stops. Every condition and its remedy is described and illustrated so you can understand it.

3. TELLS HOW TO CUT COSTS further by describing and illustrating the *tire conditions* that affect mileage — such as over-inflation, mismatched duals, mismatched driving wheels, small injuries, old tubes, bad flaps, recapping, how to break in new tires, how to counteract "growth", how to store tires, rotation.



4. INSTALL "U. S." SYSTEM that eliminates all guesswork in deciding when to replace tires, when to recap; shows the location and condition of every tire in your "stock pile"; shows the cost-per-mile of every tire you scrap; furnishes data necessary for certificates.

5. SIGN THIS PLEDGE. This "decal" on the side of a truck cab tells everyone that the driver and the owner have signed the pledge of the "U. S. Truck Conservation Corps" and are doing their part in the Preventive Maintenance Program sponsored by our government.

6. USE THE RIGHT TIRE. Wartime loads may require a larger size, a different type, a different number of plies to avoid the excessive overloads that ruin so many truck tires. The right tire for all-round service is the U. S. Royal Fleetway — famous for its long mileage.

SEE YOUR INDEPENDENT "U.S." TRUCK TIRE DISTRIBUTOR

UNITED STATES RUBBER COMPANY

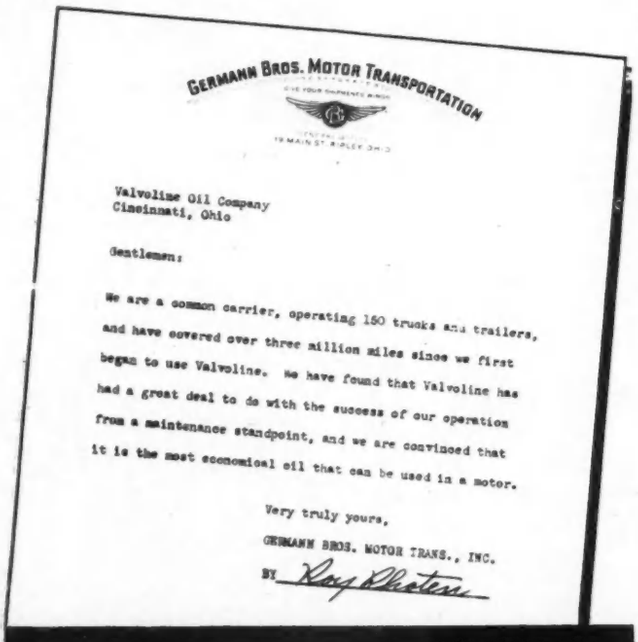
1230 Sixth Avenue • Rockefeller Center • New York

CLEANER MOTORS LONGER LIFE—

Since changing to VALVOLINE

Out of Ripley, Ohio, Germann Brothers operate 150 trucks and trailers with a total of 1,000,000 miles per year. It's tough, grinding work—30% mountain runs—but VALVOLINE Motor Oil *delivers!*

Read Roy Rhoten's letter below. See how you can get more mileage, less bearing trouble, lower upkeep with Valvoline . . . the *first* Pennsylvania Oil. Send today for facts about Valvoline Fleet Laboratory Control. Costs you nothing—saves you money every mile.



GERMANN BROS. MOTOR TRANSPORTATION

Valvoline Oil Company
Cincinnati, Ohio

Gentlemen:

We are a common carrier, operating 150 trucks and trailers, and have covered over three million miles since we first began to use Valvoline. We have found that Valvoline has had a great deal to do with the success of our operation from a maintenance standpoint, and we are convinced that it is the most economical oil that can be used in a motor.

Very truly yours,

GERMANN BROS. MOTOR TRANS., INC.

BY Roy Rhoten

SAVE MONEY — KEEP 'EM ROLLING
with
VALVOLINE
The 1st Pennsylvania Oil

VALVOLINE OIL COMPANY, 580 E. Fifth St., Cincinnati
New York - Chicago - Atlanta - Los Angeles

WAR STIMULATES AUTOMOTIVE DEVELOPMENTS

Chemist says automotive industry's developments, speeded for war needs, are two decades ahead of normal progress

"We are now in the 1960's of motor cars as measured by the old pace of development," was the keynote of an address made at the opening session of the American Chemical Society in Buffalo, N. Y., by Dr. Charles M. A. Stine, a vice-president of E. I. du Pont de Nemours & Co. and its adviser on research and development.

Dr. Stine emphasized that the war is compressing into the space of months developments in motors, fuels, and many other improvements which might have taken us half a century to realize if necessity had not forced the pace.

Declaring that the outlines of this progress have already been traced, the du Pont chemist enumerated many separate scientific revolutions which are on the way.

"Fuels, metals and plastics are now ready to complete the revolution in transportation begun early in the century," said Dr. Stine. The automobile manufacturer's slate has been wiped clean for a fresh start, which should result in new cars that will be of incredible efficiency as judged by present standards.

"Sealed cooling systems, proved on large-scale by aviation, may end in the post-war car the nuisance of adding water to radiators. Weights may be half what they are, saving from 1500 to 2000 lb. of useless load. The power output per cubic inch of piston displacement may double, treble and even quadruple. Fuels may yield 50 miles to the gallon, or better."

It is in three great fields that Dr. Stine related chemical developments that will revolutionize the post-war automobile—fuels, plastics and metals.

"Watch petroleum," he said. "The epic fight of the Royal Air Force to save England, raging month upon month against odds, was also a chemist's fight to produce better fuels—fuels that would get planes into the air in a fraction of the former time, that would give greater and yet greater speeds, longer and yet longer ranges.

"The work done in that laboratory, and in our laboratories here at home as an outgrowth of that experience, has precipitated changes in motor fuel technology of which the effects will be reverberating long after the peace. Fuels now can be made that go beyond the octane scale. Their estimated octane number are of the order of 110 or 115 and even higher. They deliver one-half again as much power as 100 octane fuel.

For several years plastics have been utilized increasingly in automobiles. Dr. Stine characterized them as of "sensational" promise before Pearl Harbor, and added:

"The newest and most versatile of plastics will be available after this war on a scale beyond all previous conceptions."

The development which has taken place in metals carries great possibilities for reducing the weights and otherwise improving the post-war car, Dr. Stine indicated.

"Aluminum production by the end of next year," he said, "will be seven times greater than it was in 1939 after fifty years of development.

And we will be recovering from brine, sea water, and other sources approximately 100 times the amount of magnesium that was produced in 1939, when the magnesium industry in America was 24 years old. After the war, the nation's capacity for producing this lightest of all structural metals will be more than double its aluminum output of 1939.

"In turn, steel is challenging the light metals. Low alloy steels and new modifications of the higher alloy steels, fresh from the laboratory, are bidding for expanding uses in aviation and wherever lightness and strength are requisites."

On rubber, Dr. Stine pointed out that more than a century was consumed in bringing crude rubber production in the world up to a million tons a year.

"The United States alone," he declared, "is now undertaking to accomplish almost as mighty a feat in less than two years by the manufacture of chemical rubbers from petroleum, alcohol, coal and limestone."

Many other chemical developments were discussed by Dr. Stine for the post-war world.

"Today we produce to destroy," he declared. "But tomorrow we will produce to build, and we will continue to invent and thus to multiply our possessions. We will have at our command ten, fifty, a hundred times what we had before, chiefly of new materials."

ALL-TIME RECORD FOR BIRLING

Birling is a sport of the lumberjacks. Two men stand on a floating log and try to upset each other by spinning the log with their feet. Skilled footwork in executing fast spins, quick reverses and eccentric turns often ends matches in a few minutes.

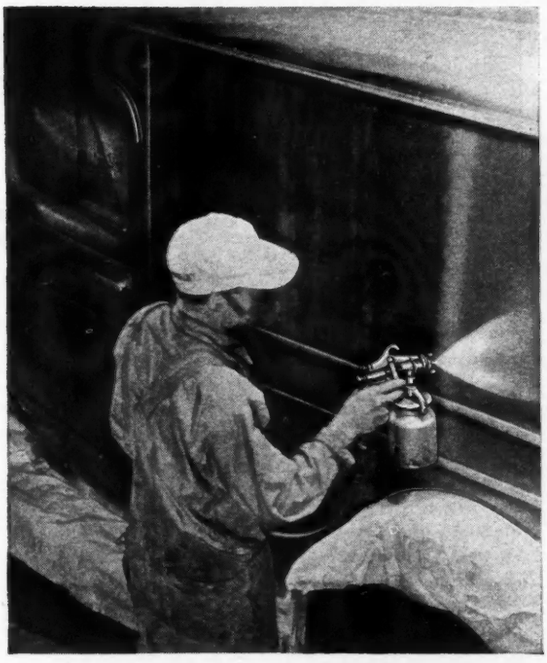
The longest record for a "fall" in a championship match was made in 1900 at Chequamenon Bay, Wisconsin. The famous Alan Stewart spilled Joe Oliver after birling 3 hours and 15 minutes.

How long can your fleet keep rolling?

● Those trucks of yours must keep rolling longer now. And if your fleet is to be in shape to take the abuse, extra miles, longer hours and heavier loads that are ahead, you must keep it in tip-top condition. To do that you must have shop equipment that is dependable and efficient.

Your DeVilbiss Spray-Painting Equipment will protect chassis and body surfaces from destructive rust and deterioration —will keep your trucks in good appearance and make them last longer. And your DeVilbiss Service Equipment will keep truck performance at its peak by speeding up repair and maintenance operations.

See that your DeVilbiss equipment is in good condition! Ask the DeVilbiss distributor to check it for the long pull ahead. He can supply the replacements, new parts or minor repairs that you need to keep your shop ready for the heavier service load it will have to carry.



THE DEVILBISS COMPANY • TOLEDO, OHIO
Canadian Plant: WINDSOR, ONTARIO

DEVILBISS SPRAY SYSTEMS SERVICE EQUIPMENT

SPRAY PAINTING EQUIPMENT • EXHAUST SYSTEMS • AIR COMPRESSORS
• AIR, PAINT, OIL, GASOLINE, WATER AND WELDING HOSE • HOSE CONNECTIONS
• OIL AND DUSTING GUNS • PAINT STRIPERS

ATA SELECTS WINNERS IN FLEET SAFETY CONTEST

Winners of the eighth national truck fleet safety contest were announced last week by the American Trucking Associations.

Simultaneously, the Texas Motor Transportation Association was named winner of ATA's annual award to the affiliated state trucking association for outstanding work in promoting safe operations on the highway.

Consolidated Freightways, Inc., of Portland, Ore., was proclaimed winner of the Trailmobile trophy, awarded annually by the Trailer Co. of America for outstanding assistance to the general motoring public and all-around leadership in the safety field.

All awards will be presented to the winners at the annual convention of ATA at St. Louis, Oct. 18-20.

Contestants in the fleet safety contest were placed in various classes according to the type of operation and the number of miles operated, and each was judged on the basis of its accident record.

Two of the awards in the local cartage class went to ice cream companies. Monmouth Ice Cream Co., of Asbury Park, N. J., won first prize for fleets operating from 50,000 to 100,000 miles, Castles Ice Cream Co., of Garfield, N. J., copped the award for 300,000 miles or more. The prize for 100,000 to 200,000 miles went to Clayton R. Exner, of Exton, Pa.

Winners in the long distance division were:

Class B-1 (1 to 100,000 miles)—winner, W. E. Minium, Lewisburg, Pa.; honorable mention, Lacy Trucking Co., LaPorte, Ind.; award of merit, Motor Truck Equipment Co., Harrisburg, Pa.

Class B-2 (100,001 to 300,000 miles)—winner, George B. Holman & Co., Inc., Rutherford, N. J.; honorable mention, Gordon Nichols, Fairmont, Neb.; awards of merit, John G. Fetterolf, Buckingham, Pa.; Sunny State Distributing Co., Albuquerque, N. M.; Kreb Bros. Transportation Co., Clearfield, Pa.

Class B-3 (300,001 to 500,000 miles)—winner, Silver Eagle Co., Portland, Ore.; honorable mention, Harry E. Grimes, Arkansas City, Kans.; awards of merit, Darl D. Womeldorf, New Bethlehem, Pa.; Mulvena Truck Line, Inc., Alpena, Mich.

Long-Distance Winners

Class B-4 (500,001 to 1,000,000 miles)—winner, C. Warren Falwell, Jr., Lynchburg, Pa.; honorable mention, C. W. Kelly Transport, Hutchinson, Kans., and Galveston Truck Lines, Houston, Tex.; awards of merit, Delcher Bros. Storage Co., Jacksonville, Fla., Hershey Chocolate Corp., Hershey, Pa., Park Transportation Co., St. Louis, Mo.

Class B-5 (1,000,001 to 2,500,000 miles)—winner, Pierce Auto Freight Lines, Inc., Portland, Ore.; honorable mention, Kaw Transport Co., Kansas City, Mo.

Class B-6 (2,500,000 and more)—winner, Consolidated Freightways, Inc., Portland, Ore.; honorable mention, Huber & Huber Motor Express, Louisville, Ky.; awards of merit, Central Truckaway System, Inc., Indianapolis, Ind., Lee Way Motor Freight, Inc., Oklahoma City, Okla., Exhibitors Service Co., Pittsburgh, Pa., Fred Olson & Son Motor Service Co., Chicago, Ill.

The period of the contest was from August 1, 1941 to July 31, 1942.

It was the second straight year that the association award has been won by the Texas Motor Transportation Association. The Pennsylvania Motor Truck Association also has two legs on the trophy, which will be retired by the first association to win it three times.

Award of the special trailmobile trophy to Consolidated Freightways likewise marked the second consecutive year that coveted prize has been won by the Portland company. Runner-up to Consolidated was the Hale-Halsell Co., of McAlester, Okla.

Committee of Judges

All winners were judged by a special committee composed of W. T. Cameron, chief safety advisor, Division of Labor

(Turn to Page 155, Please)

HYPRESSURE JENNY STEAM CLEANING

MAKES 'EM LAST!

Join the U.S. TRUCK CONSERVATION CORPS

When you cooperate with the U. S. Truck Conservation Corps your pledge will be more fully effective if you make Hypressure Jenny Steam Cleaning the keystone of your truck conditioning program.

Fleet operators the country over are shortening lay-up time as much as 50% by steam cleaning before repair, keeping chassis free of dirt that may add as much as 400 lbs. of deadweight, saving 25 to 40% in maintenance costs, getting 10 or 12 times more work per man. Best of all they're putting trucks on the road in the top-notch condition that true conservation requires. Add to these the advantages of marked savings in maintenance cleaning . . . parts, tools, floors, runways, windows, etc., and you have good reason to consider Hypressure Jenny now. Write!

One fleet operator "conditions" 96 trucks with 1 HYPRESSURE JENNY like this. Another saves $3,400 annually!

HYPRESSURE JENNY DIVISION OF

HOMESTEAD VALVE MFG. CO.

MAKERS OF PEAK PERFORMANCE VALVES FOR 50 Years 1892 1942

P. O. BOX 90 . . . . CORAOPOLIS . . . PENNSYLVANIA

ATA SELECTS WINNERS IN FLEET SAFETY CONTEST

(CONTINUED FROM PAGE 140)

Standards, U. S. Department of Labor; Norman Damon, of the Automotive Safety Foundation; Col. A. B. Barber, of the U. S. Chamber of Commerce, and George Wellington, chief of the safety section of the Bureau of Motor Carriers.

The Electric Auto-Lite Co. announced that it would award prizes in its special contest for truck fleet safety directors. These awards also will be made at the ATA convention.

Winners in each of eight classifications in the Auto-Lite contest will receive engraved chronograph wrist watches with stop-watch reading, and second place winners will be awarded desk sets containing two fountain pens and a perpetual calendar.

This year, for the first time, the Auto-Lite awards to safety directors will be based upon the number of miles operated by the fleet rather than the number of trucks in operation. There will be four classes of long distance fleets and four of fleets engaged only in local hauling.

The Wilkenning Manufacturing Co., Philadelphia, announced the appointment of Walter A. Clouser as manager of the Replacement Sales Division, effective Nov. 1, 1942. He has been associated with the sale of Pedrick piston rings for 17 years.

Truck Inventory Changes to be Filed

Persons engaged in manufacturing, selling, distributing or financing new commercial motor vehicles were reminded by R. L. Vaniman, Chief of the Automotive Branch, that a report must be filed on any change in the inventory status of a vehicle covered in the inventory taken by WPB as of July 31, 1942.

Supplementary General Conservation Order M-100-a requires the recording of every new commercial vehicle in which there has been a change of inventory status since July 31, such as through transfer of title, change in geographic location, loss beyond repair by fire, theft or damage, as well as changes in body or equipment.

Joint "E" Winners

Recent winners of the Army-Navy "E" production award include six plants of the Chrysler Corp. (Lynch Road, Highland Park, Plymouth, Dodge, DeSoto, and Jefferson Avenue); the Connors plant of the Briggs Mfg. Co.; Federal Motor Truck Co.; the Chester, Pa., plant of the Ford Motor Co.; Stewart-Warner Corp.; Monroe Auto Equipment Co.; Williams Oil-O-Matic Heating Corp.; Timken-Detroit Axle Co., and Guide Lamp Division of General Motors.

CONSERVE YOUR McKAY CHAINS

TO MAKE 'EM LAST LONGER!

More mileage is built into McKay Truck Chains than any other make. To conserve that mileage, insist that your drivers put chains on right. Properly applied chains work better and last longer. Scarcity of steel makes it imperative that you get the very last mile out of your present chains! Chains that are too loose wear out quickly; chains pulled up too tight may injure tires. They must be pulled up evenly, just tight enough to reduce "throw" of cross chains to a minimum, but loose enough to allow chain to "creep" on tire. Side chains must be "equalized", too, with the "Klip-Lock" fastener hooked through corresponding links inside and outside of the wheels. Only when all these precautions are observed can you hope to make 'em last longer!

Join the U.S. TRUCK CONSERVATION CORPS

McKay Chains are Distributed through Jobbers and Manufactured by

THE McKAY COMPANY

PITTSBURGH PENNSYLVANIA

REGULAR AND BAR-REINFORCED MULTI-GRIP

McKAY TRUCK CHAINS

SAVE MAN-HOURS

With Oakite STEAM-DETERGENT Cleaning!

War conditions make it essential for fleet operators to examine any material or method that will help keep trucks, trailers and buses rolling . . . simplify and speed-up required maintenance, repair and service work. That is why we say . . . save valuable man-hours with Oakite Steam-Detergent Cleaning!

In cleaning motors and chassis, for example, it does a fast, thorough job. By applying recommended Oakite solution with your own pressure cleaning equipment or the Oakite Steam Gun, Model No. 384, you get the TRIPLE COMBINATION of heat, mechanical force and effective detergent action that completely removes oil, grease and muck in a jiffy. Write for FREE folder giving details.

OAKITE PRODUCTS, INC., 26D Thames Street, NEW YORK, N. Y.
Representatives in All Principal Cities of the United States and Canada

OAKITE MATERIALS . . METHODS . . SERVICE — Specialized — **CLEANING** FOR EVERY CLEANING REQUIREMENT

FILTERS CUT WINTER OIL COSTS
Add Many Miles of Transportation

Typical MICHIANA Filter. Base castings differ for different installations. Either type filter element may be furnished.

Large operators of trucks report 25 to 40 per cent cuts in oil consumption while at the same time getting two to three times the number of miles before major engine overhauling—through the use of filters of adequate capacity and type.

Oil kept free of dirt, minute metal parts, asphaltenes, gums — retains its lubricating qualities for better lubrication of all moving parts which adds greatly to engine life—reduces need for replacement parts. MICHIANA Filters will help you—they are made in capacities to insure thorough filtering—for all sizes of gasoline and Diesel engines. Filters for gasoline engines are described in Bulletin 839,—for Diesels in Bulletin 42-D.

MICHIANA PRODUCTS CORPORATION
Michigan City, Indiana

MICHIANA
Duo-Flo OIL FILTERS

WASHINGTON RUNAROUND

(CONTINUED FROM PAGE 52)

Price Administration. The ingenious pricing plan mentioned here last month is still under discussion and, in the absence of a better scheme, is enjoying the right of way. At one stage of the discussions the pricing plan shaped up like this (remember, this is not final and certainly subject to change):

Age (In months)	Per Cent of New Truck Price As Is	Overhauled
Up to 12	90	90
12 up to 23	80	85
24 up to 35	70	80
36 up to 47	60	75
48 up to 59	50	70
60 and up	25	65

This tentative plan, it will be seen, provides a premium for overhauling that increases with the age of the truck. A major point which remained to be solved was a definition of "New Truck Price" on which the percentages are based. Shall the price be "Manufacturer's List Price" or shall it be the "actual price paid by the original purchaser?" To settle this point and also to make adjustments in the percentages it is quite likely that OPA will call an industry meeting. One point OPA will insist upon, and that is that in the case of overhauled used trucks an inventory of the repair work done accompany the bill of sale. It is recognized that chiselers, even so, can get in their dirty work. But chiseling may be held to a minimum by providing for sworn affidavits and Federal penal code penalties.

New Truck Inventory

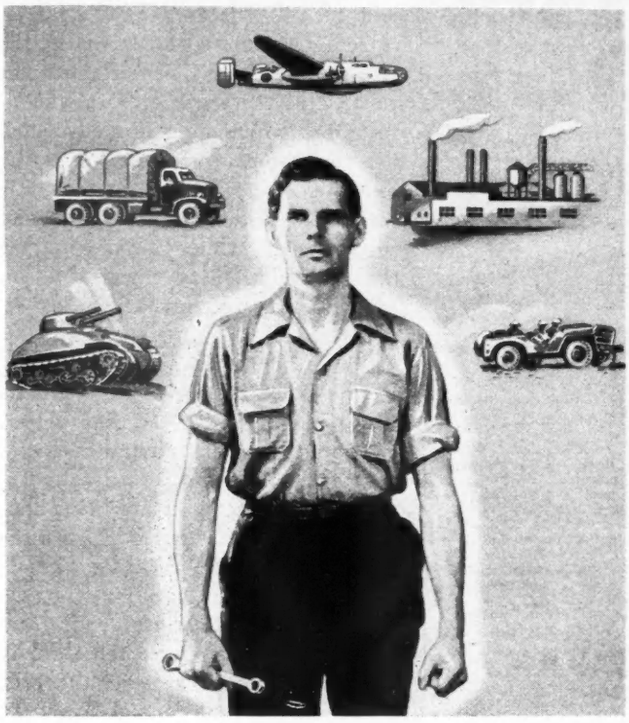
The new truck inventory conducted by the War Production Board is justifying the previous inventory made by OPA and the estimates of ODT. Returns from 23,000 retail truck establishments showed 116,000 trucks and 4500 trailers on hand as of July 31. About 5000 dealers are still to be heard from.

Army Makes Concession

The 4000 new trucks which WPB has permitted certain manufacturers to build will go into the ration pool

(TURN TO PAGE 158, PLEASE)

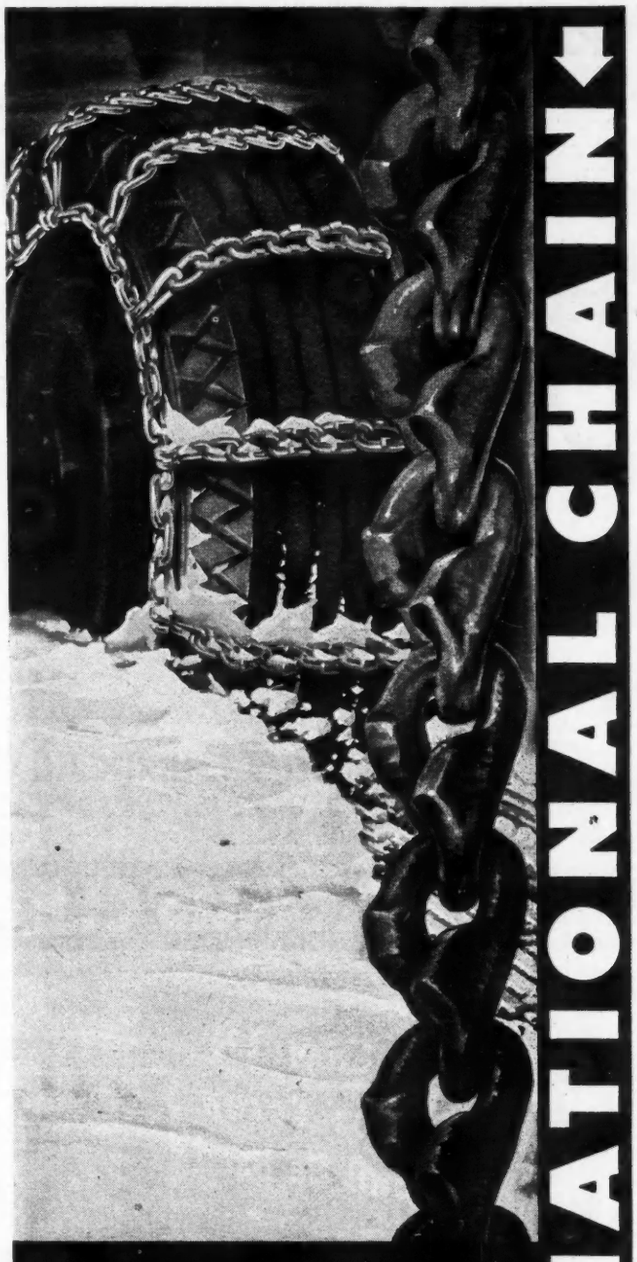
We Will Not Let Them Down



The Jeep is as different from the Limousine as the manufacturing methods used to produce it. But whether American plants turn out caissons or cabriolets, trucks or tanks, Williams' tools must service them. With some sources of supply eliminated and priorities claiming others, production in sufficient quantities becomes an increasingly difficult task. But thanks to the magnificent cooperation of tool users it is being accomplished. Servicemen are finding that each Williams' Wrench will lick many different jobs. War-essential buyers are learning that available types are more than satisfactory for their requirements. And, as always, every product bearing the name Williams will be fully guaranteed to perform efficiently the work for which it is intended. There's an interesting booklet for you entitled, "How to Select and Use Wrenches." Send for it.

WILLIAMS

J. H. WILLIAMS & CO.
BUFFALO NEW YORK



INTERNATIONAL CHAIN

LOST time — rubber waste — accidents — result from "taking a chance without chains." ★ ★ Campbell Lug-Reinforced Tire Chains give you positive protection. Their exclusive saw-tooth design really "digs in," gives traction "all-ways," lets your units start and stop without dangerous, rubber-consuming skidding and slipping. Campbell's special, molybdenum steel alloy assures much greater chain mileage—much longer chain life. ★ ★ Write for details of this radically different* tire chain. *International Chain & Mfg. Co., York, Pa.*

*U.S. Pat. No. 2,093,547— Canadian Pat. No. 223,568

HOW TO KEEP 'EM ROLLING . . .

Don't Let SLUDGE Slow'em Down!

When sludge accumulates in your truck motors, you not only get sluggish operation, but maintenance and repair costs are boosted because of sludge-clogged lubricating lines and sticking valves and rings.

MAGNUS METAFFIN

will prevent formation of harmful sludge in your truck motors. Oil passages are kept clear—valve stems and guides free from gum and varnish—piston ring grooves and oil drain holes are kept clean, allowing the rings to function properly.

Metaffin will also do a real job of getting rid of sludge where it has been allowed to accumulate in a motor.

Harmless to all metals, Metaffin offers you a safe, sure and economical way to prevent sludge damage and sluggishness. It's worth a real test in your shops.

Many large fleets throughout the country use Metaffin for better truck performance.

Write today for your copy of the "Fleet Operators Cleaning Handbook".

MAGNUS CHEMICAL COMPANY

Manufacturers of Cleaning Materials, Industrial Soaps, Metallic Soaps, Sulfonated Oils, Emulsifying Agents and Metal Working Lubricants.

38 South Avenue Garwood, N. J.

MAGNUS CLEANERS

DON'T TURN IN Anything FOR Scrap That Can Still Be Used

"All *unusable* material, equipment and stocks, should be scrapped at once and put back into war production."

KEY Graphite Paste for leak-proof service against heat and pressure . . . oil and gasoline

Don't be hasty in scrapping gaskets and fittings that can be re-used by an application of Key Graphite Paste. Conservation is the *real* key to war-winning efforts. And even though new parts are now available—it is still wise to prolong their life with protective Key Graphite Paste.

Use Key Paste on *all* new or old cylinder head, manifold and crankcase gaskets . . . and on differentials . . . seal carburetor assemblies and gasoline lines with it.

You'll quickly discover that Key Paste is the ideal sealing compound for all thread, gasket and flange connections where high temperature and high pressures . . . oil and gasoline-proof service is required.

FREE SAMPLE . . . You can test Key Graphite Paste in actual service at no cost. Write for a liberal FREE sample of this compound—no obligation . . . use company letterhead.

KEY COMPANY
EAST ST. LOUIS, ILL.

2612 McCasland Avenue East St. Louis, Illinois

WASHINGTON RUNAROUND

(CONTINUED FROM PAGE 156)

to replace vehicles transferred by the Army under government-exempt permits. This represents a moral victory for ODT which long has advocated the replacement principle. It is the only way the military can play fair with the civilian vehicle pool and justify their taking vehicles rather than ordering them constructed on high military priority.

Lamp Masks for Blackouts

The Office of Civilian Defense is still struggling with the problem of providing essential civilian vehicles with appropriate blackout lights. Approved blackout lights are being supplied to the Army but WPB refuses to make available critical materials for similar lights to be supplied to civilians. The lights use copper and WPB can't spare it. So the OCD is experimenting with a device that will substitute for the actual blackout lights. This is a plastic mask that can be snapped on the standard headlight when the vehicle must operate in a blackout. The Army is testing it.

ODT Miscellany

ODT expects about 300 joint information offices to be established throughout the country. . . . The rumor persists that ODT will take over control of passenger cars when nation-wide gasoline rationing goes into effect, and that Henderson's OPA doesn't want to let go. . . . Drivers and mechanics will be asked to sign conservation pledges by ODT and their importance on the home front will be built up. Reports are reaching Washington that truck mechanics are going to war plants and not always because more money is involved. Pride and patriotism play a part and an effort will be made to make them feel that truck transportation is essential to the war effort and that they'll be doing their part if they stick with it.

END

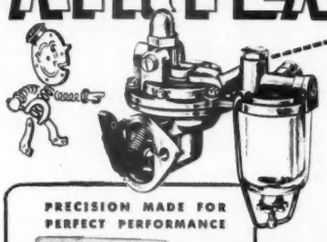
(Please resume your reading on P. 26)

Misuse of Ration Books Now Illegal

The OPA drive against "black market" gasoline transactions was implemented today by an amendment to the regulations making it illegal for a person to possess a ration book not issued to him, or to the use of which he is not entitled.

AIRTEX

AIRTEX DIAPHRAGMS GUARANTEED 50,000 MILES



Precision Made
FUEL PUMPS
and Repair Kits

PRECISION MADE FOR PERFECT PERFORMANCE

THE AIRTEX PLAN APPLIES PRACTICAL MERCHANDISING METHODS TO THE SALE AND SERVICE OF FUEL PUMPS

When you sell AIRTEX Precision Made Fuel Pumps you have not only the assurance of top fuel pump performance, but you have a practical selling plan that builds permanent sales and profits.

3-WAY SERVICE

In addition to powerful, streamlined point-of-sale displays, AIRTEX gives you these outstanding features.

1. **Diaphragm Kits for minor repairs.**
2. **Repair Kits for emergency repairs.**
3. **Complete Fuel Pump Exchange Service that gives you factory rebuilt pumps with the AIRTEX 50,000 Mile Guaranteed Diaphragm, at a low exchange price.**

Ask your Jobber for catalog and Dealer deal. Remember . . . your profits climb with the AIRTEX line.

TO HELP YOU SELL—Colorful Display Assortments of AIRTEX Fuel Pumps and Repair Kits.

COMPLETE STOCK OF NEW AIRTEX FUEL PUMPS STILL AVAILABLE FOR ALL CAR AND TRUCK MODELS

AIRTEX AUTOMOTIVE CORPORATION — FAIRFIELD, ILL.

SAVE MANPOWER WITH DULUX

REG. U. S. PAT. OFF.

More months per paint job...
Saves manpower in the paint shop!

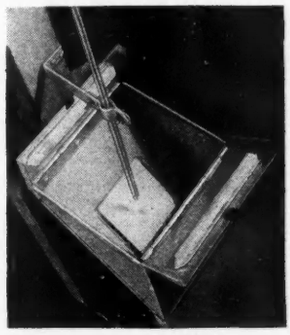
▶ Saving man-hours in the paint shop means more man-hours for producing and *transporting* the tools of war which our men need! DULUX makes such a saving possible because its superior durability makes frequent repainting unnecessary . . . keeps your trucks on the road longer. You don't need such a big maintenance crew when you use DULUX. Look at the *four kinds* of savings it gives you . . .

1. It goes on easily, dries quickly. Gives high gloss without rubbing. Cuts labor cost of painting, saves manpower. Gets the truck rolling sooner.

2. Gives longer life with full color, gloss and protection. Your trucks go to the paint shop less often—spend more time on the road.

3. Gives a hard, tough film that resists scratches and bangs—for full protection against rust.

4. Makes the truck fleet sparkle. Keeps it always looking its best.



MEET A "DRIP" . . . *This apparatus* drips *grains of sand on DULUX . . . to* pre-test *the famous automotive finish. The weight of sand required to wear through a definite thickness of finish gives an accurate* pre-test *of the abrasion-resistance of DULUX finish . . . before it's offered to you!*

E. I. DU PONT DE NEMOURS & CO. (INC.)
Finishes Div., Refinish Sales, Wilmington, Del.

THE PROPER
BLACK-OUT SWITCHES
by Cole-Hersee

Warning . . .

. . . About Black Out Switches.
Rapidly enacted laws require Public Utilities, State and privately owned vehicles to install Black Out Light Equipment.

Remember . . .

. . . Any old type switch will not do. They must be the proper approved type.

Insist Upon . . .

. . . Cole-Hersee Black Out Switches as Approved by the War Department.

We can fulfill jobber demands for switches, Plugs, Connectors, etc required by Military Vehicles.

Cole-Hersee Company
54 OLD COLONY AVENUE BOSTON MASS

JOIN NOW

WIRY JOE WANTS YOU!

Join up with Wiry Joe for Victory

Check the wire on every unit that comes into the shop for repairs. Make necessary repairs and replacements. Help end the 12 to 20% gasoline waste often caused by faulty ignition and defective wiring.

But make replacements wisely. Automotive wiring (with its copper core, and rubber-and-lacquer insulation) is made from vital, war-needed materials.

If a wire can be cleaned, shortened, or repaired, rather than replaced—do it. Forget about "sets" unless absolutely essential—replace only the wires that have gone bad. Keep insulation clean, wipe it off occasionally . . . this prevents unnecessary deterioration and lengthens wire life.

✓ Check the wire on every job

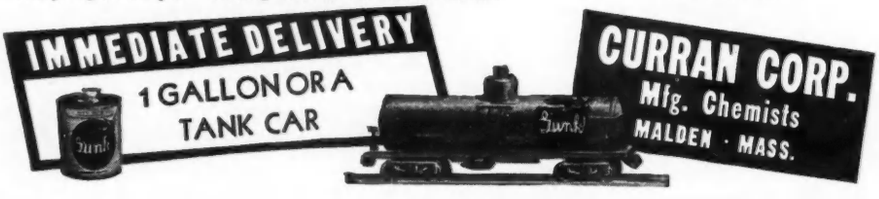
Wiry Joe
WIRE AND CABLE
PAWTUCKET • RHODE ISLAND

Tank Photo by U. S. Army Signal Corps.

No! Simply Spray with GUNK ...Sluice off with water!

GUNK does what other cleaners cannot do . . . cleans clean Army lustreless paint . . . no give away reflection . . . 100% camouflage—no shine. Nothing cleans Radial-Diesel war tank engines like GUNK . . . not only takes the cling out of oxidized and carbonized oil, grease, and dirt but emulsifies them as well so that they may be rinsed away by sluicing with water hose. GUNK has also been found a superior powder fouling cleaner for cannon bores.

GUNK removes thick insulating grease blankets from truck, auto or tank engines . . . restores original thermal efficiency . . . better cooling.



Inter-State Offers Services to OCD

The Inter-State Motor Freight System, one of the largest motor carriers in the world, has offered the Office of Civilian Defense the use of all its facilities—more than 3000 freight carrying units—to assist in movement of troops and evacuation of civilians, in event of an emergency along the eastern seaboard. The offer was made by W. F. Drohan, Inter-State's Vice President and General Manager, in a telegram to General U. S. Grant III, Chief of the Protection Branch.

Tank Destroyers in Production

New anti-tank weapons, called TD's, are being produced by former manufacturers of passenger cars and trucks. The weapons are variously described as mobile cannon, combat cars, and trackless tanks but the most accurate name for them is tank destroyers.

Capable of speeds up to 70 m.p.h., these motorized vehicles travel on multiple wheels. Lightly armored, they are heavily armed. Their guns, in several calibers, are mounted to fire in the direction of travel.

Refrigerated trucks of the Central Truck Lines, Tampa, Fla., have self-powered refrigerating units driven by a V-belt from the rear wheel of the trailer. A temperature of 42 degrees has been maintained under Florida heat conditions, with as many as 50 stops daily. An electric motor is plugged in to maintain temperature when the truck is not operating on the road. Even belt tension is obtained with a belt guide and an idler pulley. The idler belts last about fifty to ninety thousand miles. The unit is an invention of C. E. Mendez, mechanical superintendent for the Herman Sausage Co.

"Ask the Man Who Owns One"

American Safety Tank Co.
Underwriters Laboratories, Inc., A. U. 1302
KANSAS CITY, MISSOURI, U. S. A.

Adeco **NOZZLE TESTER**

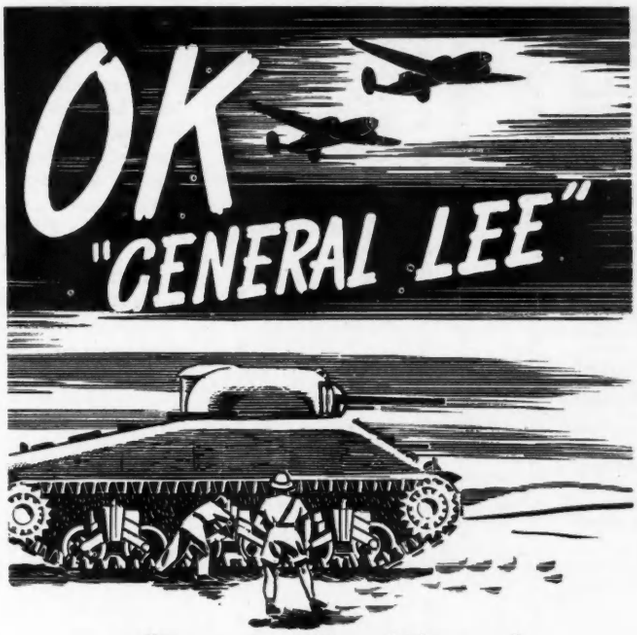
FOR DIESEL ENGINES

STOP THAT SMOKE! Test your diesel nozzles quickly, accurately — with America's most widely used nozzle tester. This sturdy, light-weight, precision-built, low-cost, portable hand test pump can help you avoid costly delays and possible damage to injector tips.

● Write for illustrated bulletin.

ADECO

AIRCRAFT AND DIESEL EQUIPMENT CORPORATION
4401 NORTH RAVENSWOOD AVENUE CHICAGO, ILLINOIS
Manufacturers of Diesel Pumps, Injectors, Nozzles, Nozzle Holders, etc.



Start Rolling!

America's armed might depends upon good tools . . . Walden Worcester is proud of its part in furnishing these.

Not only in the field, but also in the factory, Walden Worcester tools will help you win your production battles.

Send for catalog showing complete range of dependable sockets, wrenches, and tools . . . produced by a plant with over thirty-six years experience in building good tools.

STEVENS WALDEN, INC.
468 SHREWSBURY STREET
WORCESTER, MASS.

STEVENS WALDEN WORCESTER WRENCHES TOOLS & BOXES

Now is the time to TEST THIS SELF-LOCKING NUT ON YOUR EQUIPMENT

THE war industries are now absorbing the entire output of the Elastic Stop Nut plants. Manufacturers of peacetime products cannot be served in production quantities until needs of the Army and Navy are met.

However it is not necessary to wait until after the war to investigate the advantages of this modern fastening. Samples are available now, for field or laboratory testing on any equipment, with a view to future use. Just specify your requirements, stating the nature of your test application, and the nuts will be sent without cost or obligation.

» *Write for folder explaining the Elastic Stop self-locking principle.*

ELASTIC STOP NUT CORPORATION 2349 VAUXHALL ROAD UNION, NEW JERSEY

SELF-LOCKING Elastic Stop NUTS AND AIRCRAFT FITTINGS
REG. U.S. PAT. OFF.

Gas Rations and 35 m.p.h. Ordered for Entire Nation

Nation-wide gasoline rationing on the same basis as the gasoline rationing program now existing in the 17 Eastern states was ordered Sept. 25 by Rubber Director William M. Jeffers.

The rationing program will be carried out by the Office of Price Administration.

Mr. Jeffers' directive:

(1) The Office of Price Administration is hereby directed and authorized to institute nation-wide gasoline rationing on the same basis as the gasoline rationing program now existing in the Eastern states.

(2) It will be understood that after the installation of a nation-wide gasoline rationing, the Office of Defense Transportation will review the program from the standpoint of its effects upon the transportation service of the nation.

(3) The existing arrangements between the Office of Defense Transportation and the Office of Price Administration relative to rations for commercial vehicles in accordance with General Order O.D.T. No. 21 will be continued and extended throughout the nation.

With his directive, the first official as the nation's Rubber Director, Mr. Jeffers issued this statement:

"As Rubber Director I am charged with three principal duties:

"First—to provide the rubber for military needs.

"Second—to provide tires for essential civilian driving and rubber for essential manufacturing needs.

"Third—to accomplish these two requirements with as little disturbance as possible to the economic life of our citizens.

"The rubber for our military needs—and to meet the commitments made to our allies—must and will be provided.

"The rubber for essential civilian needs must also be provided.

"To accomplish this it is necessary for all of us to start on a common basis and to stick to it for the duration. I believe it can be done most fairly by fixing a maximum speed limit of not to exceed 35 miles per hour and by nation-wide rationing of gasoline.

"Reducing the speed limit to 35 or less miles per hour kills two birds with one stone. It will give you more miles for every gallon of gasoline you do have, and what is more important, it will give you at least 40 per cent more miles on the tires you now have."

ODT Speed Limit Order No. 23 Is Effective October 1

The Office of Defense Transportation has issued Order No. 23 providing for a nation-wide automotive vehicle speed limit of 35 m.p.h. Designed primarily for the conservation of existing tires on all motor vehicles, the order became effective Oct. 1. It does not take precedence over local ordinances having lower maximum speed limits.

All ODT Conservation Orders have been amended to include this change.

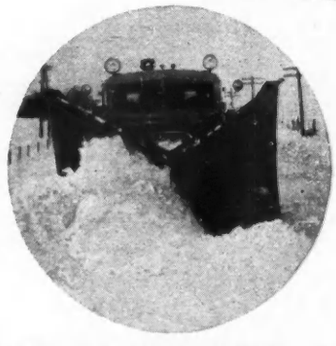
KEEP YOUR DELIVERIES ROLLING with BAKER SNOW PLOWS

Milk for baby—Dad's newspaper—the school bus, and many other regularly delivered items—no matter how deep the snow, your customers look for them the next morning. And they're there as usual—on time if you have a Baker Snow Plow to keep your delivery routes open.

Many truck fleets and bus lines have found a Baker a profitable investment. Unimpeded service in winter makes customers into real friends. There's no better way to secure and hold good will.

Built for trucks of 1½ ton capacity up. Available in "V", reversible or one-way blade types. No drift can stump a Baker Snow Plow because the action rolls the snow to the side of the highway — does not push it ahead. Low cost and ruggedly built to take it, season after season of toughest going. Easily stored—easy accessibility.

Ask for Bulletin 829, and for attractively illustrated brochure, "Snow — Friend of the Enemy".



THE BAKER MFG. CO.
571 Stanford Ave.
Springfield, Illinois

BAKER TRUCK & TRACTOR SNOW PLOWS

KEEP 'EM CLEAN

The Modern Way with

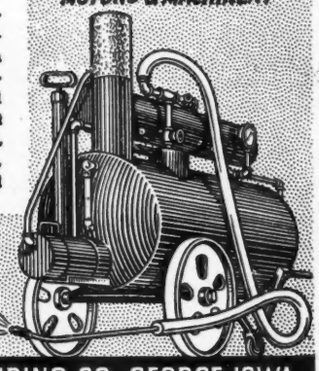
SIEBRING STEAM CLEANER

CLEANS TRACTORS

MOTORS & MACHINERY

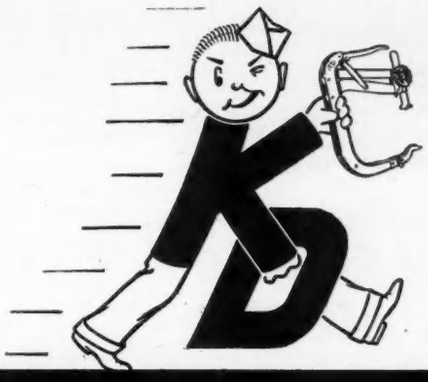
REMOVES GREASE and GRIME Almost Instantly!

Autos, trucks, tractors, and heavy machinery of all types are vital equipment today—maintain them at peak performance with the SIEBRING STEAM CLEANER. This modern automatic appliance removes all grease, grime, and dirt in record time. It operates satisfactorily on either fuel oil, natural or artificial gas. Saves time, labor, and money—its low cost will surprise you!



TEN DAY FREE TRIAL
Write For Literature

SIEBRING MANUFACTURING CO.-GEORGE, IOWA



★ THE HUSTLERS FOR YOUR TOOLBOX

See them at your Jobber's
Write for Catalog

★K-D TOOLS

Lancaster, Pa. and Hamilton, Ontario

FOR THE DURATION

We will continue building the same High Grade UNIVERSAL JOINTS as before the War - - - - -

Blood Brothers

Joints are backed by 30 years Factory & Field Experience

Whatever your requirements, if your problem is to transmit power at an angle, our field and factory experience of more than 30 years is at your command. Our Engineering Department will gladly submit quotations covering your requirements.

SPECIFY **BLOOD BROTHERS MACHINE COMPANY**
DIVISION OF STANDARD STEEL SPRING COMPANY
ALLEGAN, MICHIGAN

Blood Brothers UNIVERSAL JOINTS

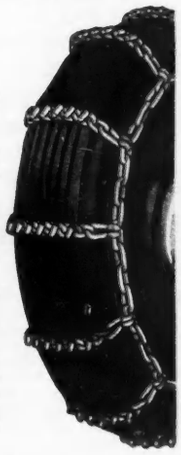
FOR RELIABILITY AND ENGINEERING EXCELLENCE

FOR BETTER TIRE CHAIN SERVICE
TAYLOR-MADE CHAINS

Keep Your Fleet "ON ITS FEET!"

BY TAKING CARE OF YOUR TIRE CHAINS!

Through mud, slush and snow—over ice-armored slabs, YOUR Trucks and Cars must be kept moving. Keep your chains in repair—and CONSERVE STEEL.



TAYLOR-MADE TIRE CHAINS

Tough, *Taylorized* Steel, with Taylor rugged slip-defying construction grips the road, keeps men and loads right side up. Taylor Design, and features, mean quickest "on and off."

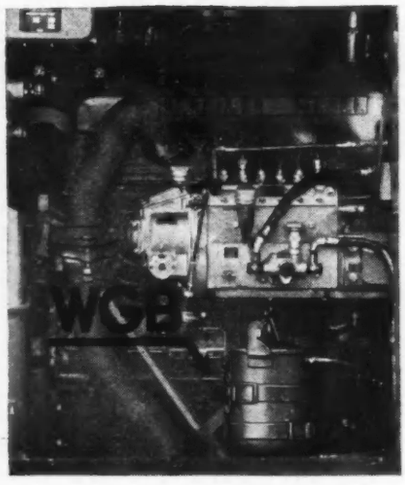
SEND FOR TAYLOR TIRE CHAIN REPAIR INFORMATION

New literature on *how to get longer service* from tire chains—suggestions for repairs—write for bulletin now.

Established 1873

Box 509-CC — S.G. TAYLOR CHAIN CO. — HAMMOND, IND.

TWIN COACH
DIESEL ELECTRICS
use only
WGB



Keep records and you'll know that WGB oil clarofication is cheapest in the end. Tough, rugged, simple, re-fillable without tools, WGB Clarofiers outlast your gas or Diesel engine. Their low-price cartridges cost less to replace than an oil change. They keep oil amber clear, prevent sludge, excessive wear, and frequent overhaul, and reduce oil changes to a minimum.

Write for big new book explaining WGB clarofication and why it is standard equipment on many of the best known gasoline and Diesel Engines. Book is free.

WGB
OIL CLARIFIER, INC.
KINGSTON, N. Y.

Transportation Study Board Submits Its Annual Report

The Board of Investigation and Research —Transportation on Sept. 19 submitted its annual report of the first year of its activities to the President and the Congress.

The Act creating the Board directed it to investigate the relative economy and fitness of railroad, motor and water carriers to determine the service for which each is especially fitted; the amount of public aids granted them; the extent of taxes imposed upon them; and other matters which the Board deems important toward developing a national transportation system adequate to meet the needs of commerce, the Postal Service, and national defense.

Activities of the Board during its first year include investigation of the flow of traffic; cost and efficiency of transportation services; public aids received and taxes paid by carriers; labor relationships; shipper-carrier relationships; regulatory practices; and interterritorial freight rates.

The report shows that in 1939, 600 billion ton-miles of traffic were hauled by domestic carriers, of which 58 per cent moved by railroad, 11 per cent by pipeline, 9 per cent by highway, and 22 per cent by inland and intercoastal water carriers.

Comment is made on the 130 million acres of land granted by the Federal Government and 49 million acres granted by state and local governments to the railroads and on federal expenditures on waterways, which up to June 30, 1940, amounted to nearly two billion dollars. During the period 1921-1940 about 39 billion dollars of public funds were spent on roads and streets. Taxes paid by carriers in 1941 alone amounted to more than three billion dollars, of which over two billion was paid by motor carriers, nearly 600 million dollars by railroads, and the balance by water, pipeline and air carriers.

The Board states that a full report, with findings and recommendations on the interterritorial rate structure, will be filed in January, 1943, and findings on public aids and taxation will be filed during the fiscal year of 1943.

The Board said the apparent surplus of transportation was turned into a transportation shortage by the war emergency, but pointed out that the old problems of oversupply and destructive competition will probably return in intensified form after the war unless constructive policies are adopted. The report states that, although all forms of transportation are now regulated with a view to protecting the public from excessive and discriminatory charges and providing adequate carrier services and revenues, carriers and shippers continue to complain of unfair and unequal treatment.

Greater use of modern facilities and methods, coordination and unification of transportation agencies, and the organization of "transportation companies," in which rail, highway, and water services would be combined, are among the proposed methods which the Board is investigating for improving transportation service and eliminating destructive competition.

"Oldforge"
PEDIGREED TOOLS
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CATALOG
UPON REQUEST
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QUALITY TOOLS CORPORATION
New Wilmington, Pa.

? DO YOU KNOW ?
. . . what motor oil has been used by Pan American Clippers for over 13 years and more than 900 million passenger-miles?
WOLF'S HEAD
100% Pennsylvania 35c a quart
Wolf's Head Oil Refining Co. Oil City, Pa.

OVER 70% OF ALL MAKES OF TRUCKS AND BUSES ARE *Zollner* EQUIPPED
ZOLLNER
HEAVY DUTY PISTONS
ZOLLNER MACHINE WORKS . . . FORT WAYNE, IND

THE TRAILER COMPANY OF AMERICA
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CINCINNATI
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FRINK
SNO-PLOWS
REG. U.S. PAT. OFF.
Both "V" TYPE and ONE WAY BLADE TYPE
hand or power hydraulic control
FOR ALL MOTOR TRUCKS FROM 1½ to 10 TONS
Write for catalog 38AC and 38BC with discount to truck dealers
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Only 1st Line Jobbers Carry Wonder Weld . . .

Most Highly Imitated . . .

Wonder Weld is Best for Cracked Motor Blocks . . .

16 Strategic Warehousing Points in U.S.A. . . .

Wonder Weld doesn't lay on shelf—turns over 10 to 12 times a year . . .

BECAUSE Wonder Weld leads the market 2 to 1. Because it is the perfect guaranteed seal. Because it works in 30 minutes — no special tools necessary.

Stock and Sell the Best Guaranteed Motor Seal

WONDER WELD

MILLER MFG. COMPANY
1100 N. 32nd Street, Camden, N. J.

ANTHONY *Super* HYDRAULIC HOISTS

A COMPLETE LINE IN ONE DESIGN FROM— *5 to 30 ton*

Anthony offers you the hoist with every desirable mechanical feature built into each of 9 super hoist sizes. Whether you buy a 1½ yard or a 20 yard dump body you get each and every Anthony Super Hydraulic Hoist feature. Here is the line of hoists specially constructed for profitable dump truck operation.

Line drawing shows location of "Rubber Restraining Blocks"

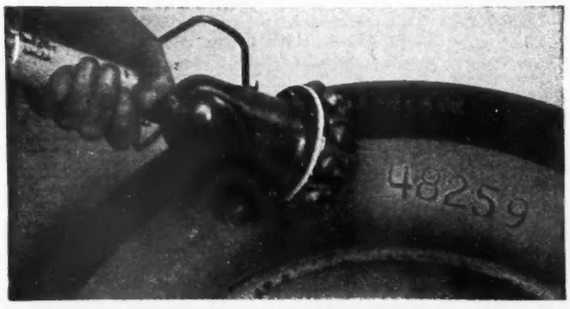
FASTER OPERATION — LONGER LIFE BECAUSE OF THESE FEATURES

- "Push-Pull" dash control
- Double Arm "Power-Speed" lift
- "Low Mounting Height"
- Special "Rubber Restraining Blocks"
- "Telescopic" hoist frame
- "Floating Gear," Pump, Etc.

Write Today for Complete Sales Manual

ANTHONY COMPANY, INC., STREATOR, ILLINOIS

KNOW YOUR TIRES *Intimately!*



Today, more than ever, it is smart to be intimately acquainted with each tire in your fleet. Know their individual histories—their term of service—their place in the fleet—their cost per mile.

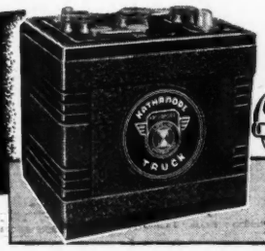
All this is now made easy by the use of the EVERHOT Electric Branding Iron and the TIRE COST SYSTEM which is FREE to EVERHOT users.

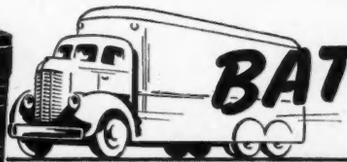
EVERHOT Branding Irons have ten digits (0-9) on the disk making possible any combination of numbers desired. Priced at $35.00 f.o.b. Maywood, Illinois.

Write for free literature and sample forms. Now is the time to know your tires—intimately.

Everhot MFG. CO., Maywood, Ill.

KATHANODE *The Long Life* BATTERY





To insure maximum wartime performance and economy, equip busses and trucks with Kathanode, the heavy-duty, original spun glass battery.

THE KATHANODE CORPORATION · CHICAGO, ILL.

PLYMETL
Steel-faced Plywood Panels
- Tremendous Strength
- Extreme Light Weight
- Easy to Fabricate
- Eliminate Drumming
- Reduce Framing

CHECK THE ROAD-PROVED ADVANTAGES OF

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FOR BODY, ROOF, DOOR, PANEL AND FLOOR CONSTRUCTION
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PREMALOID
Hardwood Plywood Panels
- Provide One-Piece Dust-proof Floor
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- Strong and Rigid
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WORN BEARINGS CAUSE
TIRE WEAR
REPLACE THEM WITH
LINK-BELT ROLLER BEARINGS

Check the front wheel bearings and make certain of perfect wheel alignment. Replace with Link-Belt—the bearing with the exclusive roller and raceway design which assures free rolling action — greater load capacity and perfect alignment. Also, for Differentials and Rear Axles.

Made by the makers of the famous Silverstreak Silent Timing Chain

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LINK-BELT COMPANY
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KEEP YOUR VEHICLES MOVING ECONOMICALLY
with
HALL VALVE SERVICING EQUIPMENT

Ask Your Jobber or write
THE HALL MFG. CO.
TOLEDO, OHIO

KINNEAR ROLLING DOORS FOR TRUCKS

Save space! Open upward! Coil out of way. Always safe from wind. Can't joggle open! Less chance of damage to doors. *All Metal.* Fireproof! Prevent thefts. Write for details.

The KINNEAR MFG. CO.
2100-20 FIELDS AVE., COLUMBUS, OHIO
FOR BUILDINGS — *the recognized leader*

Goodyear Ready to Produce War Tire with 4 oz. of Crude

Passenger car tire building rooms of the Goodyear Tire & Rubber Company in Akron, Ohio, today took on their pre-war appearance of activity as the company made ready to go into quantity production of its new war tire.

The new tire, which will give 10,000 miles if driven at speeds of 35 miles per hour and less, contains only four ounces of crude rubber, America's most critical material.

Aside from the four ounces of crude used in cementing the plies, it is a reclaim tire whose materials have come from the nation's rubber scrap pile.

In the expectation that government regulations in line with the Baruch Committee report will shortly release sufficient quantities of the reclaim to keep essential wheels rolling, the Goodyear company has completed all plans for quantity production. Tire building machines, molds and ample supplies of reclaim are on hand.

The new war tire is husky and sleek. Its tread design and its entire appearance are such that it cannot be told from a first quality tire of the pre-war days. It will bear the Goodyear name on the sidewall, together with the words "WAR TIRE" stamped in a small disk. It lends itself to recapping when the original tread becomes worn.

Attached to each tire will be a tag which informs the purchaser that the tire is made from reclaim and that speeds in excess of 35 miles per hour must be avoided.

It is expected that quantity deliveries to tire dealers throughout the country can be made by the time final details of the government's tire-gas rationing plan are completed and placed in effect.

Goodrich Ready to Build

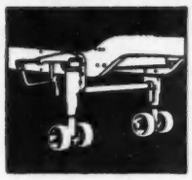
The B. F. Goodrich Co. has completed plans for going into immediate production of tires made of reclaimed rubber, if the recommendations of the Baruch Committee report are officially put into effect, according to John L. Collyer, president.

Recommending strict enforcement of a speed limit of 35 miles per hour for private automobiles, together with adequate tire inspection, the Baruch Committee said that on this basis it would be possible to provide enough new tires and recapping materials to maintain its proposed program if a maximum of 138,000 tons of reclaimed rubber were made available during the next 16 months.

"We are satisfied that from a technical and from a manufacturing standpoint the rubber industry can provide the country's motorists with the replacement tires they need for essential driving, using available reclaimed rubber and other materials now being produced.

"Our tests and development work on tires made of reclaimed rubber give us assurance that if motorists comply fully with the driving recommendations of the committee's report, they may expect reasonably satisfactory service from these tires."

AUSTIN
THE ACCEPTED STANDARD . . .
A complete line of LANDING GEARS . . . . HORIZONTAL, VERTICAL and FOLDING TYPES.



•
Write for complete information on "SAFETY PROPS" and FIFTH WHEELS.

AUSTIN
TRAILER EQUIPMENT COMPANY MUSKEGON MICHIGAN

DEDICATED to VICTORY..

Over and above the manufacture of essential automotive accessories, our engineering and manufacturing facilities are wholeheartedly dedicated to the supreme task of helping America and the United Nations win Victory.

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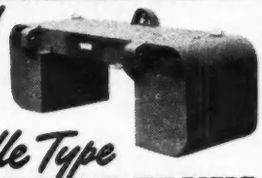
Available Trucks

Builders of fine Motor Trucks, Tractors, Trailers and Buses since 1910.
Capacities from 1½ to 10 tons.
Write for bulletin
AVAILABLE TRUCK COMPANY
2501 Elston Ave. Chicago, Illinois

Specify MHS Saddle Type



SAFETY FUEL TANKS
A fully descriptive folder gives complete details. Send for a copy—
MECHANICAL HANDLING SYSTEMS, INC.
4650 NANCY AVE. DETROIT, MICH.

K-D LIGHTING
The right light for the right job

GO TO
LIGHTING HEADQUARTERS
YOUR K-D LAMP JOBBER

★ ★ ★ K-D LAMP CO. ★ ★ ★ CINCINNATI, O.

MOBO RADIATOR SERVICE FOR BETTER WINTER PERFORMANCE

WITH Winter well on the way it becomes increasingly important for every motor vehicle operator to have his radiator treated with Mobo's famous 2 step service.

Mobo Radiator Cleaner is a concentrated solvent that thoroughly dissolves grease, rust, sludge and scale. Its use not only means smoother, better cooling system performance, but also results in longer life from anti-freeze.

Mobo Liquid Radiator Solder is a concentrated liquid that finds its way into radiator leaks and seals them quickly and harmlessly. A treatment before installing anti-freeze is the best guarantee of efficient radiator service.

The combination of cleaner and solder means real economy. Always insist on Mobo.

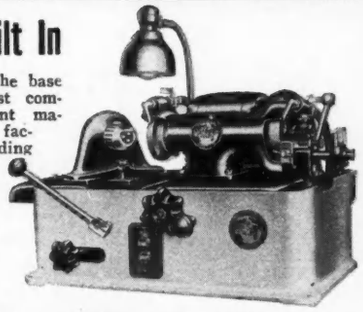
ASK YOUR MOBO JOBBER OR WRITE US

JOHN T. STANLEY CO., INC.
642 WEST 30th ST. NEW YORK, N. Y.

SIOUX VALVE FACE GRINDING MACHINE WET GRINDER

Wet Grinding Built In

Designed and built from the base up for wet grinding—most compact, complete and efficient machine of its kind. Assures factory precision in wet grinding valves, Ford valve tappets and Ford valve stem ends. Chucking capacity ¼" to ⅝" diameter. No. 655 comes completely equipped. Write for full details.



Your Jobber Sells It

ALBERTSON & CO., INC. -:- SIOUX CITY, IOWA, U. S. A.

REPLACE YOUR LETTERING

. . . if you can't your TRUCKS!

While your fleet size is restricted, make your trucks and salesmen's cars do double duty. Conserve your trucks . . . but conserve your trade name and prestige, too . . . with colorful, low cost new Meyercord truck lettering and designs. Easily, quickly applied. Durable, weatherproof. Free designing service. Write for details.

Automotive & Equipment Division
THE MEYERCORD CO.
5323 West Lake Street, Chicago, Illinois

STOPS TIRE MUTILATION

One Puncture May Mean Loss of Irreplaceable Tube . . . or Even a Life

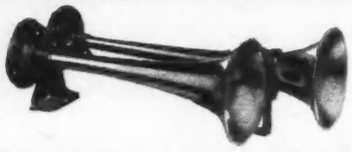
You're taking a big gamble in driving trucks without AIRLOX. A puncture today is serious business. Your trucks may be on their last set of tires. It might be years before you can get more. One puncture usually ruins a tube beyond repair. So why take the chance of putting your trucks out of operation and endangering the lives of drivers. AIRLOX is cheap tire and life insurance. It seals puncture as the truck is being driven. One treatment effective for years in all temperatures. Arrange to protect all the tires on your trucks with AIRLOX. If you are unable to obtain AIRLOX from your regular automotive jobber, order direct.

IVANO, INC., 129 EAST 21st ST., CHICAGO, U. S. A.

INSIST ON AIRLOX

There are many puncture-sealing compounds on the market. None can compare with AIRLOX. Besides being more effective, AIRLOX does not contain sodium chloride or any other ingredient injurious to rubber or valve fittings.

BUELL
AIR HORNS



IT'S A FACT!

- Tire mileage does increase, gas consumption does go down when you keep rolling with less use of brakes with BUELL HIGH PRESSURE AIR HORNS. Still available with priority order.

Write for descriptive chart, NOW.

BUELL MANUFACTURING CO.
2918 Cottage Grove Ave., Chicago, Illinois

TO KEEP THEM ROLLING

Use Genuine
TIMKEN BEARINGS

THE TIMKEN ROLLER BEARING
COMPANY, CANTON, OHIO

THERE IS A GUARANTEED
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ENGINEERED SET
of PISTON RINGS
FOR EVERY CAR, TRUCK,
BUS, AND TRACTOR

VICTOR
GASKETS, OIL SEALS
GREASE RETAINERS

800 Girls Drive School Buses in North Carolina

War and the women have done for the ancient joke about female driving in North Carolina.

North Carolina's 5000 schoolbuses—comprising the world's largest school bus fleet—this year are operating at a new peak of efficiency, and partly, according to the Department of Motor Vehicles, because buses driven by girls require 40 per cent less money for repairs and 20 per cent less fuel than required on identical routes by men or boy drivers.

The number of women bus drivers (most of whom are high school girls of 16-18 years) has increased from fewer than 100 in 1940 to 800 in 1942, and the record by the lassies at the wheel has raised more than one skeptical eyebrow. A few years ago, the same skeptics put on sackcloth when the state school bus system turned operation over to thousands of young boys. The boys bettered the record of the adults.

The girls are doing even better. They have not been involved in a single serious accident, they lead the boys in efficient driving, and they are saving North Carolina taxpayers a pretty penny.

In six North Carolina counties the percentage of girl drivers is already 25 or greater. In one county more than 50 per cent of school bus drivers are women and girls. In Wake County, which operates 131 buses and has 250 certified drivers, a girl was judged to be the best driver of 1941-42.

The pretty bus-lers are dependable, too. County superintendents report the girls meet their schedules on time, and the way they cut down on cost is something to lighten the heart of every parsimonious Tar Heel taxpayer. The answer, says Chief Mechanic M. F. Roberts, is that "girls take care of their buses better than the boys do."

The girls came into the picture prominently when war industries began to lure away older high school boys. The shortage in Camden County, near the Norfolk area, was so acute this year, that nine mothers decided to do the driving themselves, but, in Camden, as elsewhere, it is papa who pays: after passing all tests and getting their certificates, the nine mamas had their husbands certified as substitute drivers. Now, papa drives the bus in bad weather.

Fleet Jobs Draft Exempt

Selective Service headquarters has issued its newest and largest list of critical occupations in which the trucking industry has been accorded the same treatment as received by the railroads in March. About two dozen jobs, such as mechanics, shop foremen, maintenance superintendents, despatchers, traffic managers, operations managers, terminal managers, rate men and over a dozen others, including certain drivers, are listed as being critical.

The critical ratings were granted on the basis that it takes a long time to train suitable replacements. Up to this time, local draft boards throughout the country have been unwilling to regard the truck transportation industry as essential to the war effort.

"Pe-Ka" TRAVEL LOG
IT'S DIFFERENT

FOR COMMERCIAL VEHICLES AND INDUSTRIAL MACHINES
IT COSTS NO MORE AND TELLS SO MUCH
MANUFACTURED BY
PAUL KNOPF
37th ST., COR. 43rd AVE., LONG ISLAND CITY
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See Your NAPA Jobber For Prompt Service on Automotive Parts!

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National Automotive Parts Association
Assurance of Quality

A Nation-Wide Organization of Independent Warehousing Distributors

NATIONAL AUTOMOTIVE PARTS ASSOCIATION
Executive Offices: 705 Fox Building, Detroit

Specify . . .

XACTO Printing Pump
To Check Fuel Deliveries
at the Pump

AKRAFLO Fuel Consumption
METER to Check
Fuel Consumption at the Motor

S. F. BOWSER & CO., INC.
1360 Creighton Ave.
FORT WAYNE, INDIANA

We're on the jump
MAKING
WAR NECESSITIES
but building all the replacement parts we can, to help keep the millions of cars and trucks in operation for vital needs.

Wohlert CORPORATION
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REFLECTORS • LAMPS • MIRRORS
LAMPS • MIRRORS • REFLECTORS
REFLECTORS • LAMPS • MIRRORS
MIRRORS • REFLECTORS • LAMPS

IT'S SAFER TO SEE WITH
YANKEE

YANKEE METAL PROD., CORP.
NORWALK, CONN.

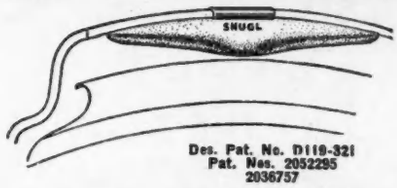
KING

Motor and Ignition Testers · Exhaust Gas Analyzers · Battery Chargers and Testers.

THE ELECTRIC HEAT CONTROL CO.
9121 INMAN AVENUE · CLEVELAND, OHIO

LONGER TIRE LIFE

with *Snugl* Fade-Away **BALANCE WEIGHTS**



Des. Pat. No. D119-321
Pat. Nos. 2052295
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Today when you must get every ounce of wear out of your tires, balanced wheels are of the utmost importance.

Secure perfect balance now with SNUGL Balance Weights, the weights with the Self-locking Dove Tail Clip with that Bull Dog Grip. Easy to install, they cannot rattle or work loose. Made in pass. sizes ½ to 6 oz. Trucks ¼ to 1½ lbs.

See your Jobber or write the factory today.

MID-WESTERN AUTO PARTS, *Manufacturers*
824 East Elm Street, Kokomo, Indiana
Western Distributor: Kenneth V. Mills, 910 W. Pico Blvd., Los Angeles, Calif.

GASOLINE **Sterling** DIESEL

MOTOR TRUCKS ARE ENGINEERED FOR THE JOB

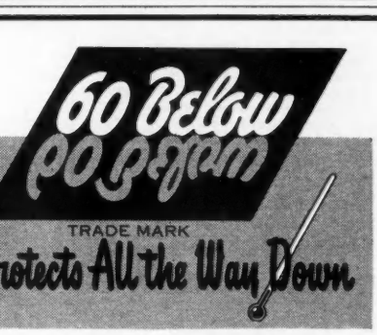
Economical, dependable models for highway transportation.

Rugged, heavy duty models for hauling heavy machinery, mining, excavating, quarrying, logging, etc.

Built to "perform better longer."

The only American motor truck with a shock absorbing wood-lined frame.

STERLING MOTORS CORPORATION
MILWAUKEE, WISCONSIN
Branches in Principal Cities



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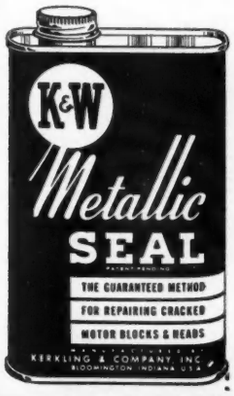
FREEDOM CHEMICAL COMPANY
Cleveland, Ohio

Save
CRACKED BLOCKS & HEADS
K & W Metallic Seal
K & W Mechanical Method

is being used by thousands of fleet operators, truck dealers, jobbers, car and truck manufacturers.

See your nearest jobber or write us.

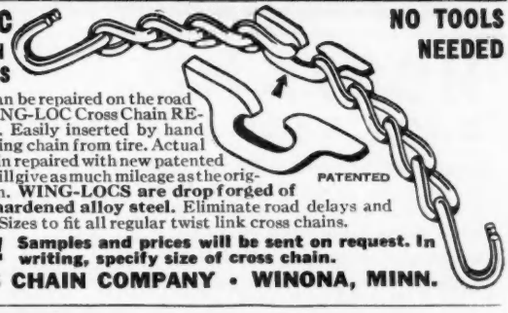


KERKLING & COMPANY, INC.
BLOOMINGTON, INDIANA, U. S. A.

REPAIR *the* LINK *and* SAVE *the* CHAIN!

WING-LOC CROSS CHAIN REPAIR LINKS

NO TOOLS NEEDED



Truck chains can be repaired on the road easily, with WING-LOC Cross Chain REPAIR LINKS. Easily inserted by hand without removing chain from tire. Actual tests prove chain repaired with new patented WING-LOC will give as much mileage as the original cross chain. **WING-LOCS are drop forged of special case hardened alloy steel.** Eliminate road delays and costly repairs. Sizes to fit all regular twist link cross chains.

FREE! **Samples and prices will be sent on request. In writing, specify size of cross chain.**

PEERLESS CHAIN COMPANY • WINONA, MINN.

COMMERCIAL CAR JOURNAL

Is the Leading Publication in the TRUCK FLEET Field

FOR MANY YEARS
PREFERRED
AS A SOURCE OF
WASHERS

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Literature on Request

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1685 W. LAFAYETTE BLVD. • DETROIT, MICHIGAN

WASH TRUCKS-BUSES
BETTER
IN HALF THE TIME!
FOUNTAIN BRUSH
$11.95 POST-PAID

Quickest, easiest, best for fleet care. Made in hollow, cast aluminum head with four foot handle supplying continuous stream of water. Bristles sturdily set in head and flare to 9" diameter. Weighs only 2¾ pounds. This brush will easily pay for itself many times over in a few months. REFILLABLE AT SMALL COST. ORDER TODAY.

FLOUR CITY BRUSH CO.
MINNEAPOLIS, MINNESOTA
or PACIFIC COAST BRUSH CO.
Los Angeles, Cal.

GLOBE
SPINNING POWER
TRADE MARK REG.
BATTERIES
built for REPLACEMENT SERVICE
GLOBE-UNION INC., MILWAUKEE, WIS.

HOLLAND
CAN "TAKE IT"

The smartest, most improved unit of its type, Model V-400 Vertical Lift Landing Gear is especially adapted for heavy duty service.

Powerful—rugged—dependable.

Complete truck and trailer equipment. Catalog on request.

HOLLAND HITCH CO.
HOLLAND, MICHIGAN

WAR EFFORT
Now Taking Our
Full Capacity
GRICO
2-AXLE DRIVE
19842 W. Eight Mile Rd.
Detroit, Michigan

Data Required for ODT Certificates

Applications for Certificates of War Necessity under General Order ODT No. 21 will provide the Office of Defense Transportation with a complete inventory of all tires now on the wheels of the country's more than 5,000,000 non-military commercial vehicles or held for the use of such vehicles.

In applying for a Certificate of War Necessity, every operator must report the number and condition of all tires in his possession by sizes or size groups, including both new and used tires.

In addition, the operator must list the mileage of tires, by sizes, which were removed from service, in 1941, exclusive of retreaded or recapped tires, thus giving the ODT a definite gauge on normal consumption of new tires by commercial vehicles.

One type of application blank will be mailed to operators of one or two vehicles; another to fleet operators—those operating more than two vehicles. Mailing of the application blanks, together with detailed instructions on how to fill them out and other relevant data, was to begin Sept. 23.

Any operator of a truck, bus, taxicab, jitney, ambulance, hearse or vehicle available for rental who has not received his application blank when this announcement appears, should apply immediately to the nearest field office of the ODT's Division of Motor Transport, stating the number of self-powered vehicles he operates so that the proper application blank can be forwarded to him.

If a fleet operation consists of both (1) tank trucks and vehicles for hauling dry freight, or (2) buses and freight vehicles, the owner should apply for separate certificates on each type of operation.

The application blanks cover all phases of commercial vehicle operation, both local and over-the-road in the case of trucks, local and intercity in the case of buses, as defined in applicable ODT orders.

In addition to tire data, operators will be required to submit the following information:

Types of business for which vehicles are operated.

Purposes for which the vehicles are principally used, such as farming, service, transportation of passengers, transportation of workers or patrons or transportation of articles (to be specified by applicant).

Area of operation—local or over-the-road or both.

Nature of operation—distribution or other.

Cities where vehicles are operated.

Territory of over-the-road operations.

Number of vehicles owned; number of vehicles leased or rented; names and addresses of persons to whom any vehicles are regularly leased or rented.

Complete data on past operations and estimated future operations by quarters—July, August and September of 1941 and 1942; October, November and December of 1941 and 1942; January, February and March of 1941 and 1943; April, May and

"A load behind is a trip ahead"
IMMEDIATE DELIVERY
on Open and Closed Top
TRAILERS
AND CHASSES
National Sales—Kingham—National Service
KINGHAM TRAILER CO.
INCORPORATED
LOUISVILLE, KENTUCKY

SPECIALLY BUILT FOR FLEET OPERATION
See your Ramco Jobber or write Ramsey Accessories Mfg. Corp., 3893 Forest Park Boulevard, St. Louis, Missouri.

FULLER
TRUCK TRANSMISSIONS
For easy shifting, quiet operation, hauling power and dependability, be sure to choose trucks equipped with FULLER'S.
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BRAKE DRUMS AND TIRES

FOR TRUCKS, TRAILERS AND BUSES.

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DAYTON, OHIO

June of 1941 and 1943—and for the entire 12 months of 1941 and July through June of 1942-1943, including:

Miles operated quarterly by vehicles owned and vehicles leased to and from others.

Vehicle miles quarterly for special deliveries and call backs.

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Trips operated quarterly.

Average load per trip, in terms of tons, cubic feet or other units.

Average unit capacity of vehicle in tons, cubic feet or other.

Average load in terms of percentage of capacity of vehicles.

Operators also will be required to specify what ODT orders are applicable to their operations, special or general ODT permits applicable to their operations and what steps have been taken to reduce mileage, conserve equipment and tires and comply with ODT orders.

Those operating in an area where gasoline is rationed are required to state what percentage of total operations is in such area, how many gallons of gasoline they were allowed by their rationing boards and for how many miles, how much gasoline was used in the rationed area from July 22, 1942, to September 23, 1942, and how many miles were operated in this period.

Fleet operators, as well as single unit operators, are required to describe in detail all vehicles for which a Certificate of War Necessity is required.

An individual certificate will be issued for each self-powered vehicle in the United States and must be carried on the vehicle.

Records of operation, subject to ODT inspection, must be kept by all operators affected by the order, which becomes effective November 15.

ICC May Inspect Carriers' Records

In a ruling on the case of I. C. C. vs. Alabama Highway Express, Inc., Judge Thomas A. Murphree, U. S. Court, Northern District of Alabama, upheld the right of special agents of the Interstate Commerce Commission to inspect all records of motor carriers subject to interstate regulation.

The court stated that its decision was necessarily influenced by the fact that motor carriers operating under the Act are public utilities and, therefore, complete inspection by duly authorized agents of the commission must be expected.

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HEAVY DUTY FOR OFF THE HIGHWAY SERVICE

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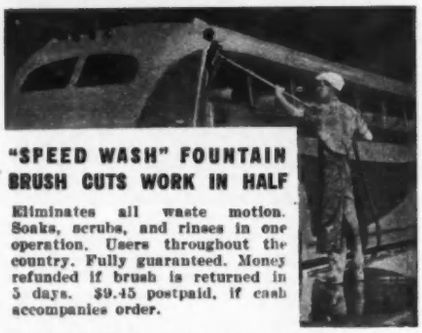

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Level-Ride
TRUCK SEATS

- *No more cushion repairs*
- *Cuts driver fatigue*
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FOR BETTER BODIES

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For running-in new and rebuilt engines, use auxiliary lubricants containing—

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COLLOIDAL GRAPHITE

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PORT HURON • MICHIGAN

October Truck Tire Quota Off 12%

Quotas of truck and passenger car tires for rationing in October have been cut by OPA from the September levels, although not fully in line with the seasonal pattern of replacement sales in former years when the autumn months brought reduced driving and less tire wear as compared with summer peaks.

A new truck tire quota of 202,840 for October compares with 239,445 for September, while the allotment of recapped tires and recapping services for trucks is 238,973 against 262,258, and the inner tube quota is 225,620 against 262,261.

The quota of new passenger car tires is 60,676, compared with 38,297 for September. This increase is to take care of the needs of taxicabs, which recently were made eligible for new tires under restrictive conditions. The total of Grade II new tires for certain classes of war workers is 98,755 against 115,544, and the quota of recapped tires or recapping services is 457,561 against 486,468. The October allotment of passenger car inner tubes is 315,138, against 333,450 for September.

Forging Pinions Saves Steel

A new process for forging pinion teeth to the same finished dimensions and with the same accuracy as obtained by gear cutting has been developed by Timken-Detroit Axle Co., Willard F. Rockwell, chairman of the board, announced.

Commenting on this process of manufacturing differential pinions, Mr. Rockwell said that it would effect a saving of "around 1,000,000 lb. of high grade steel at the current production rate.

"We used to machine the smallest differential pinion from a piece of steel bar weighing 1.65 lb. We now accurately forge this pinion to the required finished dimension from a forging billet weighing .92 lb., a steel saving of 44 per cent.

"On a larger differential pinion, we forge from 2.12 lb. of steel, instead of machining from a piece of steel bar weighing 4.77 lb., a saving of 55 per cent."

A comparison of the raw stock and the identical size pinions is shown in the accompanying illustration. At left is the customary bar stock. At the right, the forging billet.

Trucks Used for Scrap Collection Not to Suffer

Trucks, volunteered for the purpose of collecting scrap during the intensified salvage campaign, will not suffer because of wartime gasoline and transportation regulations, it was announced by the Conservation Division of the War Production Board.

This statement is issued in the hope that truck owners and operators in local communities will lend the use of their vehicles for the collection of scrap.

Call on Heil's nation-wide distributor organization for specialized service on dump bodies and tanks. BH-65

THE HEIL CO.
GENERAL OFFICES: MILWAUKEE, WISCONSIN

AUTOPULSE
ELECTRIC FUEL PUMP

- Uninterrupted Schedules
- Instant Starting
- Greater Economy
- No Vapor Lock
- Added Protection

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BALL AND ROLLER BEARINGS

Be 100% with your

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A 5th WHEEL FOR EVERY PURPOSE

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for prices and full details on the tools you need.

LISLE CORPORATION, Box 1017, Clarinda, Iowa

"COMMERCIAL CAR JOURNAL is the only periodical we read from cover to cover and keep as a reference, finding it contains invaluable information for our daily use."

—So says the President of a western freight line, operating 100 trucks. A good customer for you.

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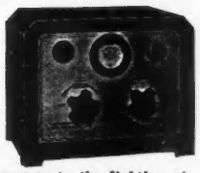
Meets 1942 Conditions



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For Engine Bearings
Clutch Plates & Parts
King Bolt Sets

Monmouth is the name

Substitutions in Army Trucks Save Materials

Savings of millions of pounds of critical materials have been accomplished by General Motors engineers and production experts through changes in designs and processes and through substitutions of less critical metals for those that are more critical, a survey of some of the company's war production plants revealed. Here are a few examples of material saving:

Guide Lamp Division perfected a method of drawing Army truck headlamp reflectors from steel instead of brass. The new method uses 78,000 lb. of steel and 5 lb. of aluminum per 100,000 vehicles, while the old required 65,000 lb. of copper, 32,000 lb. of zinc, 275 lb. of nickel and 160 lb. of silver for the same number of headlamps.

Totaling up all its substitutions in the case of lighting equipment for military vehicles, Guide achieved the following savings per month: 21,000 lb. of copper, 12,000 lb. of zinc, 6000 lb. of rubber, 2300 lb. of chrome steel, 240 lb. of aluminum and 135 lb. of nickel.

In the case of Army trucks Chevrolet estimates that alternate materials developed by its engineers have saved 5,000,000 lb. of crude rubber, 1,200,000 lb. of nickel, 500,000 lb. of copper, 200,000 lb. of chrome, 125,000 lb. of latex and 70,000 lb. of tin for every 100,000 vehicles produced.

Delco-Remy Division has substituted battery cases of asphalt and cotton linters in place of hard rubber, and it has redesigned the battery grids so that only 7 per cent antimony alloy is used instead of the former percentage of 11½.

One hundred thousand pounds of bronze per year is being saved by Delco Products merely by eliminating two bronze bushings in shock absorber castings for Army trucks. The castings are now bored to finished bearing size. The same division now saves 3½ lb. of aluminum on each integral horsepower motor it makes as a result of redesigning the rotor, using copper bars for conductors and making the fans of cast iron.

The need for conserving copper prompted engineers of the Harrison Radiator Division to redesign the heat exchangers or radiators this division makes for all types of engines. In the case of one aircraft radiator, aluminum construction was substituted, not only saving 84 lb. of copper but saving production time and adding 52 lb. to airplane load capacity.

"It is worthy of note," C. E. Wilson, president, pointed out, "that in every case where a change has been made that results in a saving of material the change has not affected the quality of the product. In many cases it has actually improved quality, and in almost every case, it has resulted in speeding up production and reducing cost."

Two Thor Branch Offices Moved

The Independent Pneumatic Tool Co. announces that its Boston office, now managed by Vance G. Turner, has moved to 78 Brookline Ave., and its Birmingham office has moved to 1411 No. Third Ave.

Recondition Dim Headlamps
Install Sealed Beam Adapters
with the genuine All Glass Mazda
Sealed Beam Bulbs
An Electroline Adapter to Fit Every Truck or Car.
Surprisingly Economical.
Installs in a Jiffy.
Write Today for Full Particulars
ELECTROLINE MFG. CO.
5604 Cedar Ave., Cleveland, O.

JONES PORTABLE TACHOMETER

The world's largest operators of commercial vehicles use Jones Portable Tachometers to check engine speeds for tune-ups, and setting governors, etc. Here are a few: Standard Oil Co., of La., N. J., N. Y., Shell Petroleum Co., Atlantic Refining Company, Tidewater Oil Company, Keeshin Motor Express, Mack Trucks, Brockway, U. S. Navy.

Direct, instantaneous reading

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432 FAIRFIELD AVENUE

SERVICE-PROVED

GRUELING years of toughest service prove Blackhawk Hydraulics superior in safety, rugged dependability and utility. "Service-Proved" Seal found only on Blackhaws. Only complete line of hydraulic hand jacks—models up to 50 tons capacity.

BLACKHAWK MFG. CO.
Dept. J 1102, Milwaukee, Wis.

BLACKHAWK

FOR LONGER SERVICE-USE

Maremont ALLOY STEEL Springs and Mufflers

Sold By Leading Jobbers Everywhere
MAREMONT AUTOMOTIVE PRODUCTS, Inc.
So. Ashland Ave. at 47th Street Chicago, Ill.

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